

The intergenerational transmission of poverty

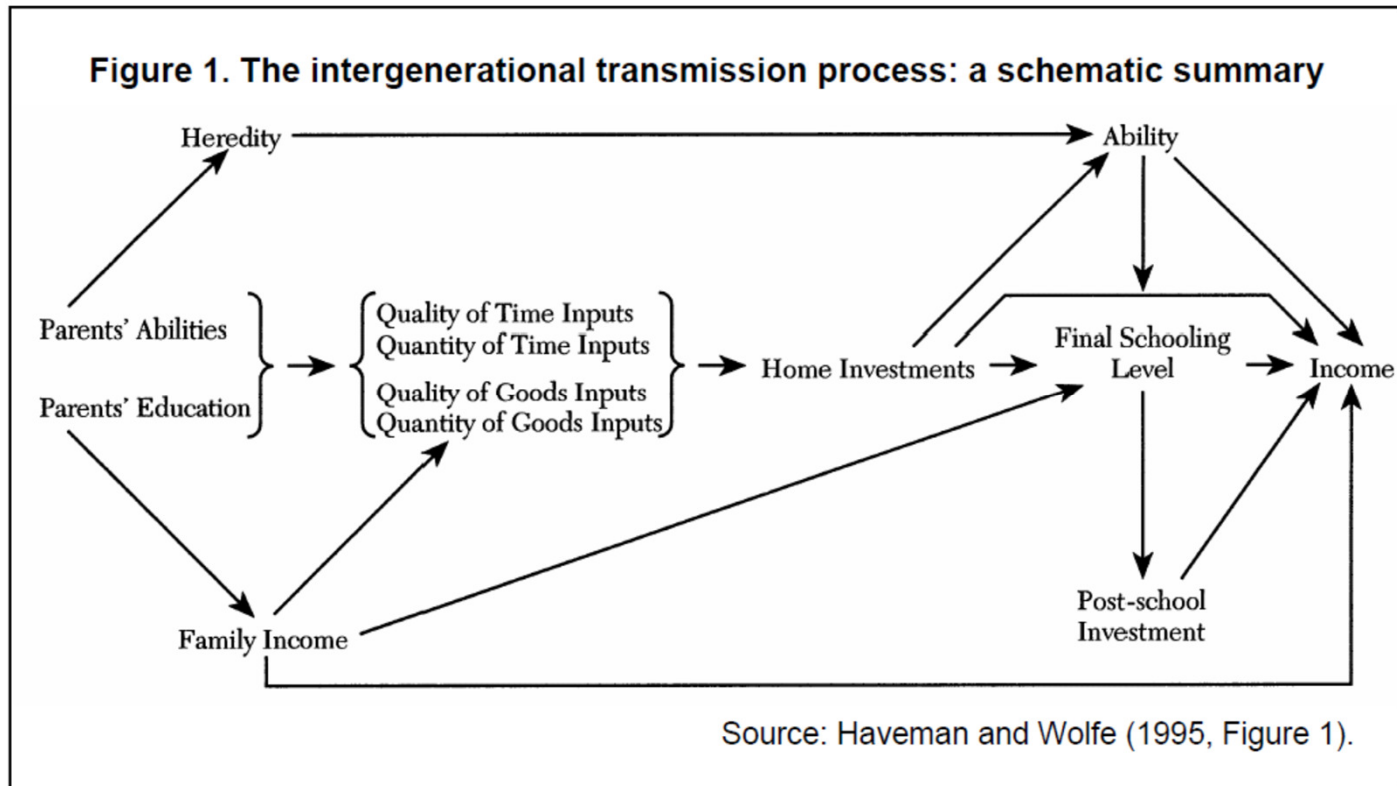
Lorenzo Cappellari
Università Cattolica Milano

La povertà in Europa e le misure per combatterla
Sapienza University of Rome – May 26 2017

Introduction

- We know that there is a substantial degree of intergenerational (IG) transmission of income
- The level of child incomes depends on the incomes of their parents
- This happens because parents' income affects educational investments in children and thence their incomes
- Parents also transmit other income generating factors: values, preferences, genes
- Different across countries:
 - high in US and Italy (10% increase in parents income translates into 5% increase in children adult income)
 - low in Scandinavian countries (10% → 2.5%)

A conceptual framework for IG transmission



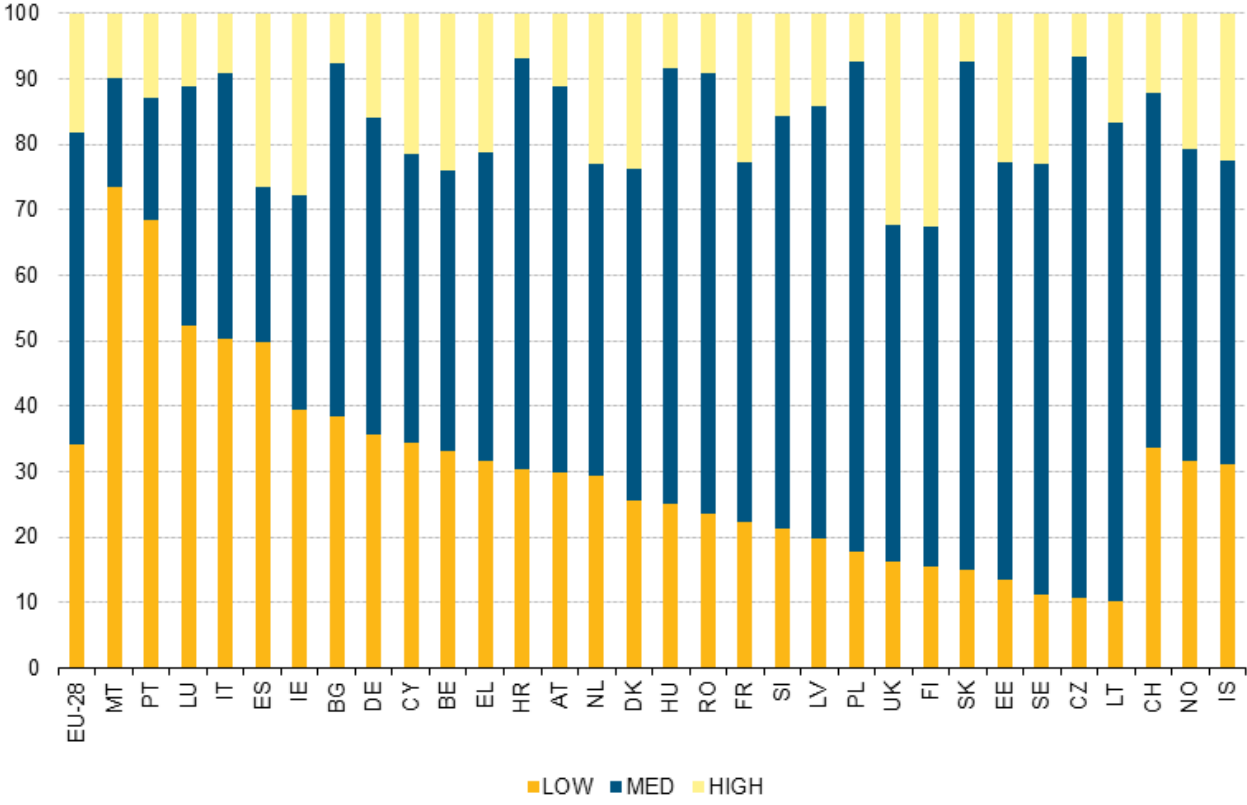
Implications for poverty

- Is the process of IG transmission homogeneous along the income distribution?
- Reasons to believe that transmission of poverty (low income) is
 - Lower than at the mean or at the top: welfare policies helping the children of the poor
 - Higher than at the mean or at the top: parents transmit poverty culture favouring intergenerational persistence
- Policy implications: IG multiplier of anti-poverty policies

Outline of presentation

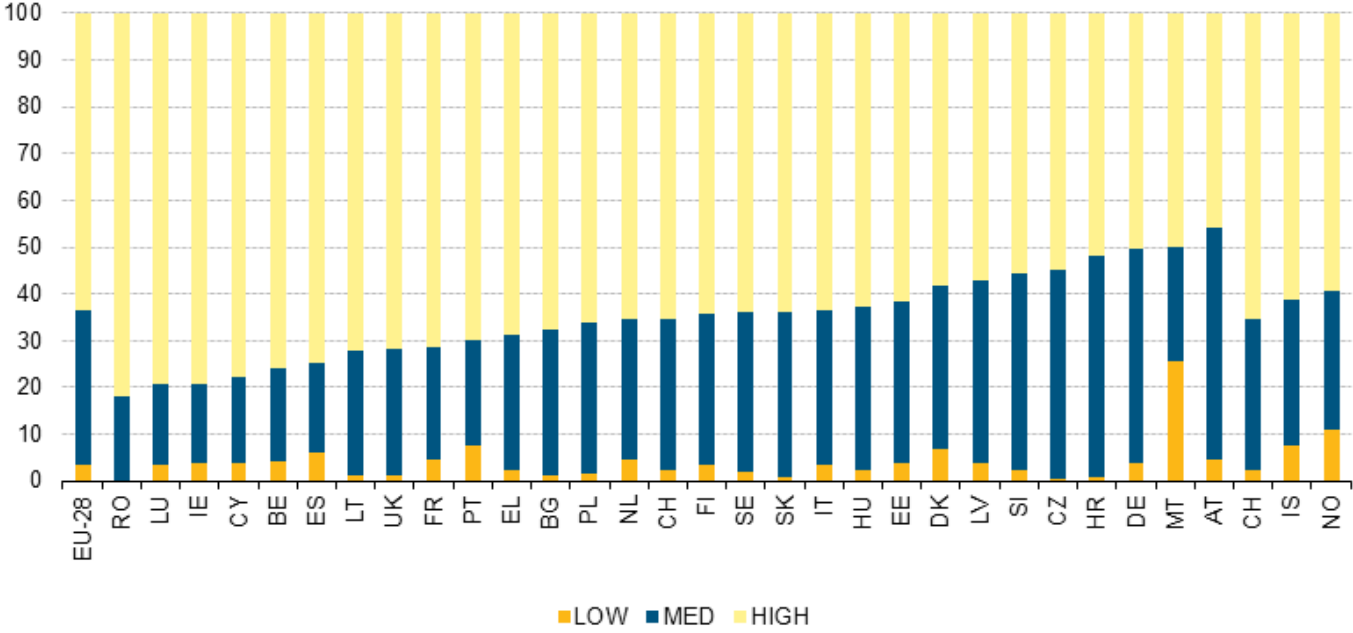
- Review of existing evidence/studies
- Poverty and parental education: Evidence for Italy from the Bank of Italy's Survey on Household Income and Wealth
- IG transmission of long term poverty: Evidence from Danish siblings

Educational levels for children of low education parents



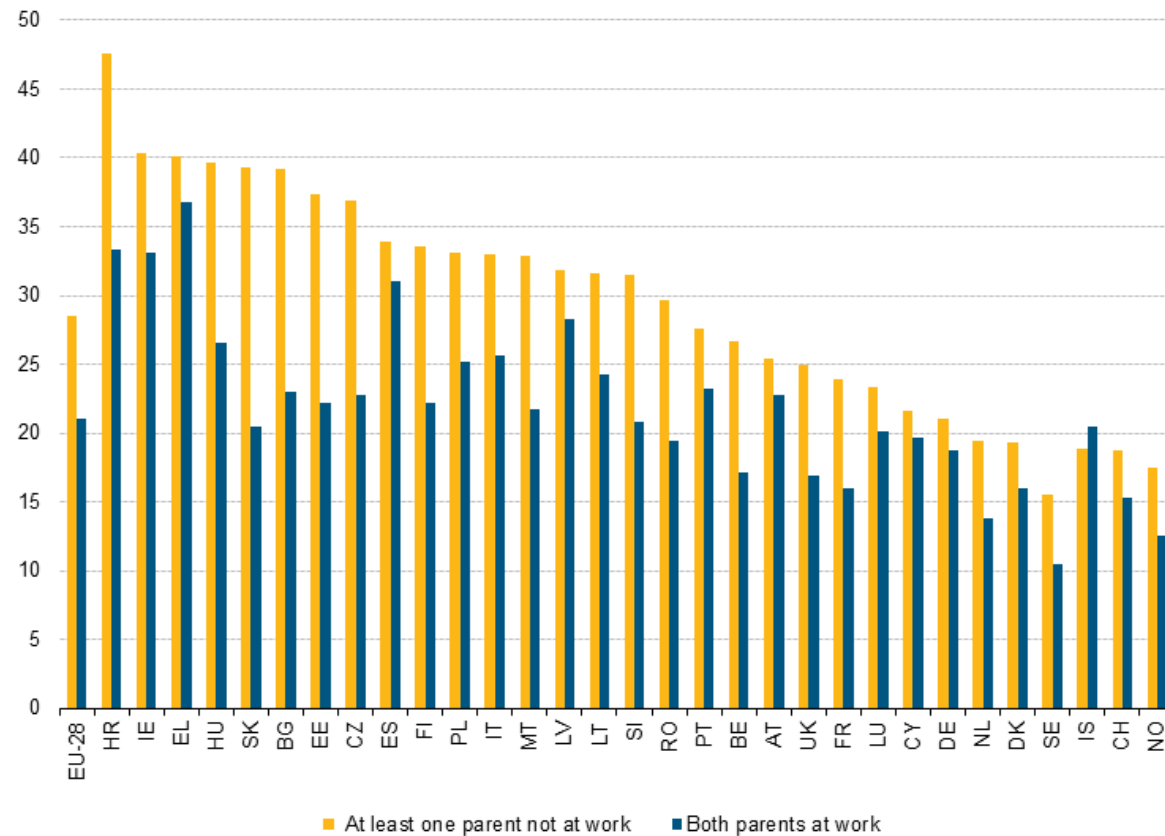
Source EUROSTAT

Educational levels for children of high education parents



Source EUROSTAT

Current adults “not at work”



Source EUROSTAT

Income transmission by fathers' income: US

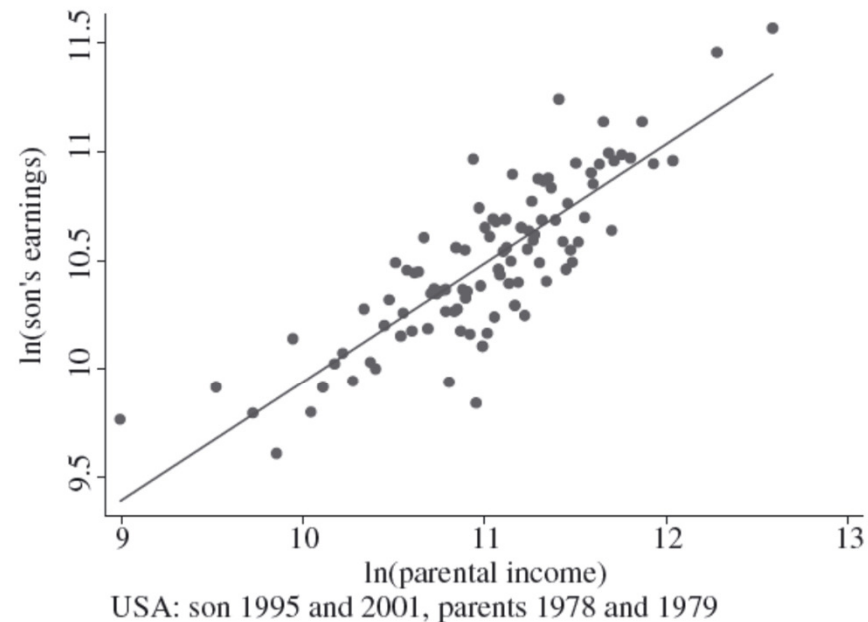


Fig. 2. *Log Earnings of Sons and Parental Income in the United States*
Regression line (slope = 0.547(0.035)) and mean log earnings of sons and parents for each percentile of the parental income distribution.

Source Bratsberg et al 2007

Income transmission by fathers' income: DK

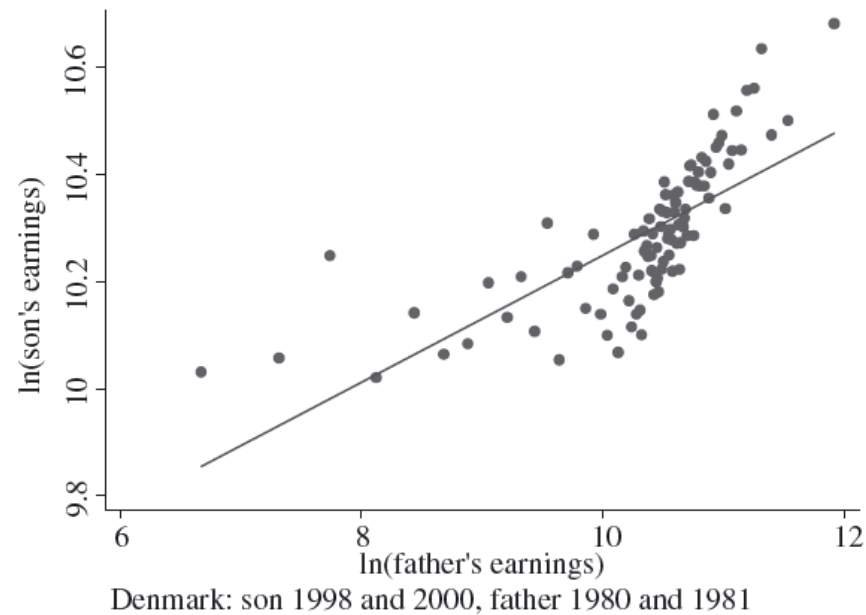


Fig. 4. *Log Earnings of Sons and Fathers in Denmark*
Regression line (slope = 0.119(0.011)) and mean log earnings of sons and fathers for each percentile of father's earnings distribution.

Source Bratsberg et al 2007

Causal estimates

Table 3: Propensity Score Matching

	(1) Income b/se	(2) Poverty b/se	(3) Education b/se
ATE	-3410 (118.886)	0.030 (0.002)	-0.228 (0.007)
ATT	-2618 (160.879)	0.034 (0.003)	-0.246 (0.010)
N.	179021	179021	177304

Source: Bellani 2013 on EU-SILC

Other findings

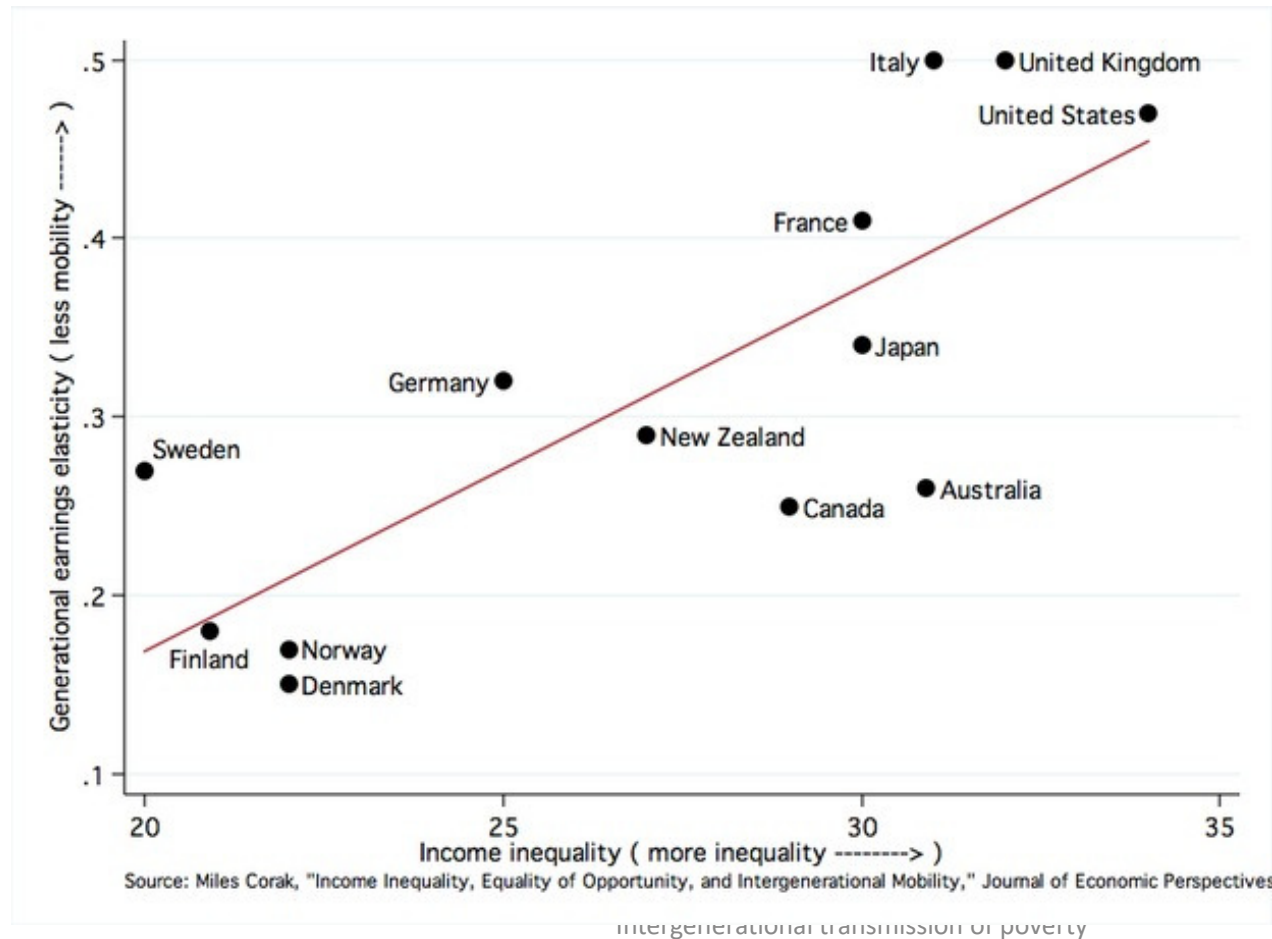
- For the US the IG intergenerational association in poverty rates is particularly pronounced for black men (Corcoran 2001; Musick and Mare 2004)
- In the UK the IG association in poverty has grown over time (Blanden and Gregg 2006)
- Scant evidence for other countries
- More evidence about the transmission to other adult outcomes, most notably education, all pointing to significant effects

Table 2 Countries ranked by average parent–child schooling correlation from Hertz et al. (2007) individuals Aged 20-69.

Country	Coefficient	Rank	Correlation	Rank
Peru	0.88	6	0.66	1
Ecuador	0.72	12	0.61	2
Panama	0.73	11	0.61	3
Chile	0.64	18	0.60	4
Brazil	0.95	4	0.59	5
Colombia	0.80	8	0.59	6
Nicaragua	0.82	7	0.55	7
Indonesia	0.78	9	0.55	8
Italy ^a	0.67	17	0.54	9
Slovenia ^a	0.54	27	0.52	10
Egypt	1.03	2	0.50	11
Hungary ^a	0.61	20	0.49	12
Sri Lanka	0.61	19	0.48	13
Pakistan	1.00	3	0.46	14
USA	0.46	33	0.46	15
The Netherlands	0.58	24	0.36	31
Norway	0.40	38	0.35	32
Nepal	0.94	5	0.35	33
New Zealand ^a	0.40	37	0.33	34
Finland	0.48	32	0.33	35
Northern Ireland	0.59	22	0.32	36
Great Britain ^a	0.71	14	0.31	37
Malaysia	0.38	39	0.31	38
Denmark	0.49	29	0.30	39

Source: Black and Devereux 2011

A tale of two (opposite) countries



The Great Gatsby Curve (GGC)

Source: Corak 2012

Poverty and parental background in Italy

- SHIW 1993 – 2014
- Parental background information (education and occupation of the parents for the household head and –in some years– of the spouse)
- Household income
- Study the relationship between parental background and poverty

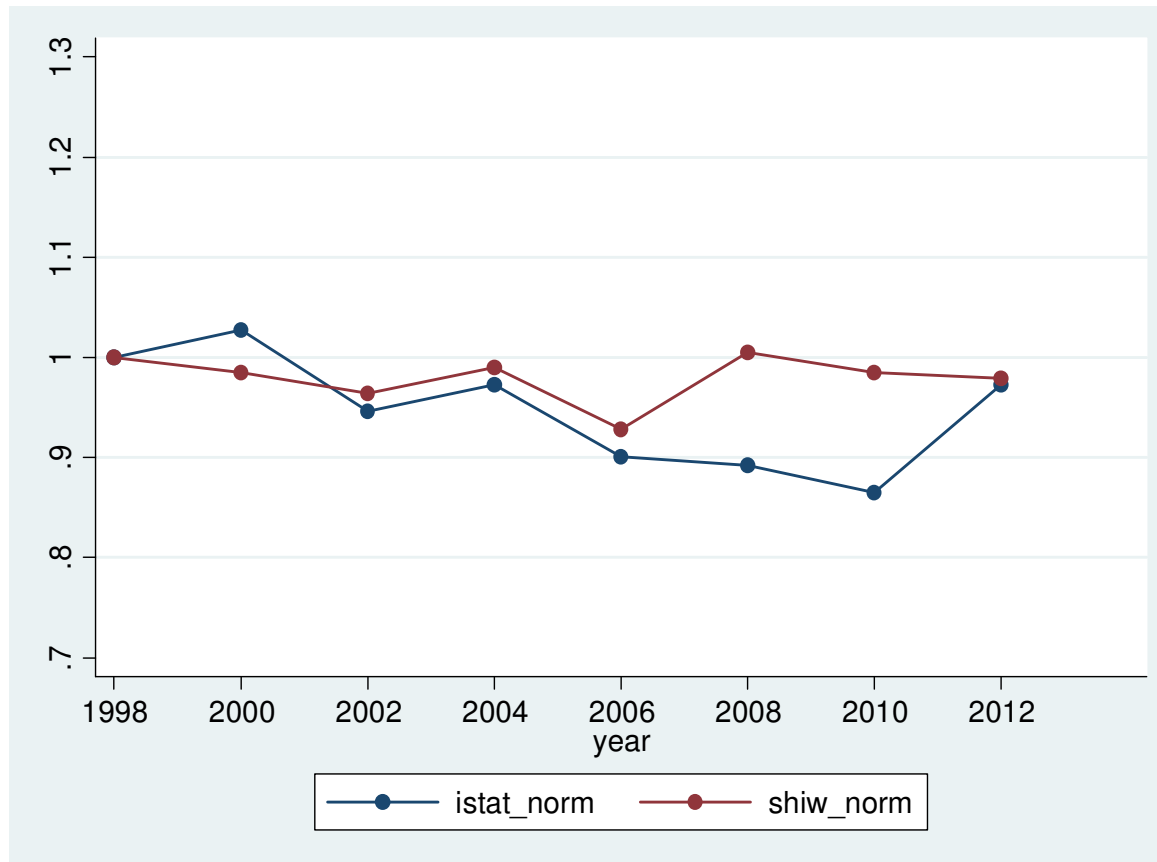
Evidence from Italy

- Poverty line: 60% of the median of the equivalised household incomes distribution (OECD modified scale)
- Because of data constraints (missing information for the spouse/partner educational background in some years) we run the analysis at the household rather than the individual level
- The estimated Head Count Ratio (HCR) matches with the one computed using individuals as the unit of analysis: 21% vs 22.3% reported in the Bank's statistical bulletin for 2014
- Of course, numbers differ from official statistics using consumption-based poverty lines, but dynamics match in the two cases

year	Poverty line		Head Count Ratio	
	Istat	SHIW	Istat	SHIW
1993	.	5567.66	.	20.3
1994
1995	.	6140.11	.	19.7
1996
1997	5863.10	.	11.5	.
1998	5976.78	7053.28	11.1	19.4
1999	6057.45	.	11.2	.
2000	6352.31	7645.92	11.4	19.1
2001	6389.77	.	11.1	.
2002	6480.36	8247.60	10.5	18.7
2003	6842.30	.	9.8	.
2004	7167.36	9019.91	10.8	19.2
2005	7301.02	.	10.3	.
2006	7539.01	9724.57	10	18
2007	7642.40	.	9.9	.
2008	7714.44	10086.71	9.9	19.5
2009	7568.63	.	9.6	.
2010	7650.95	10286.69	9.6	19.1
2011	7802.73	.	9.9	.
2012	7596.17	9696.00	10.8	19
2013	7419.01	.	10.4	.
2014	.	10034.20	.	21

. Intergenerational transmission of poverty

Dynamics of the HCR



Intergenerational transmission of poverty

IG mobility of education

	HH education				
	None	Primary	Lower secondary	Upper secondary	University
HH- father education					
None	18.75	47.51	26.23	6.22	1.29
Primary	0.83	22.98	47.83	22.61	5.74
Lower secondary	0.34	3.41	36.04	43.99	16.23
Upper secondary	0.06	2.05	15.85	45.72	36.31
University	0.09	0.70	7.79	28.73	62.68
Total	5.78	25.22	36.67	22.64	9.69

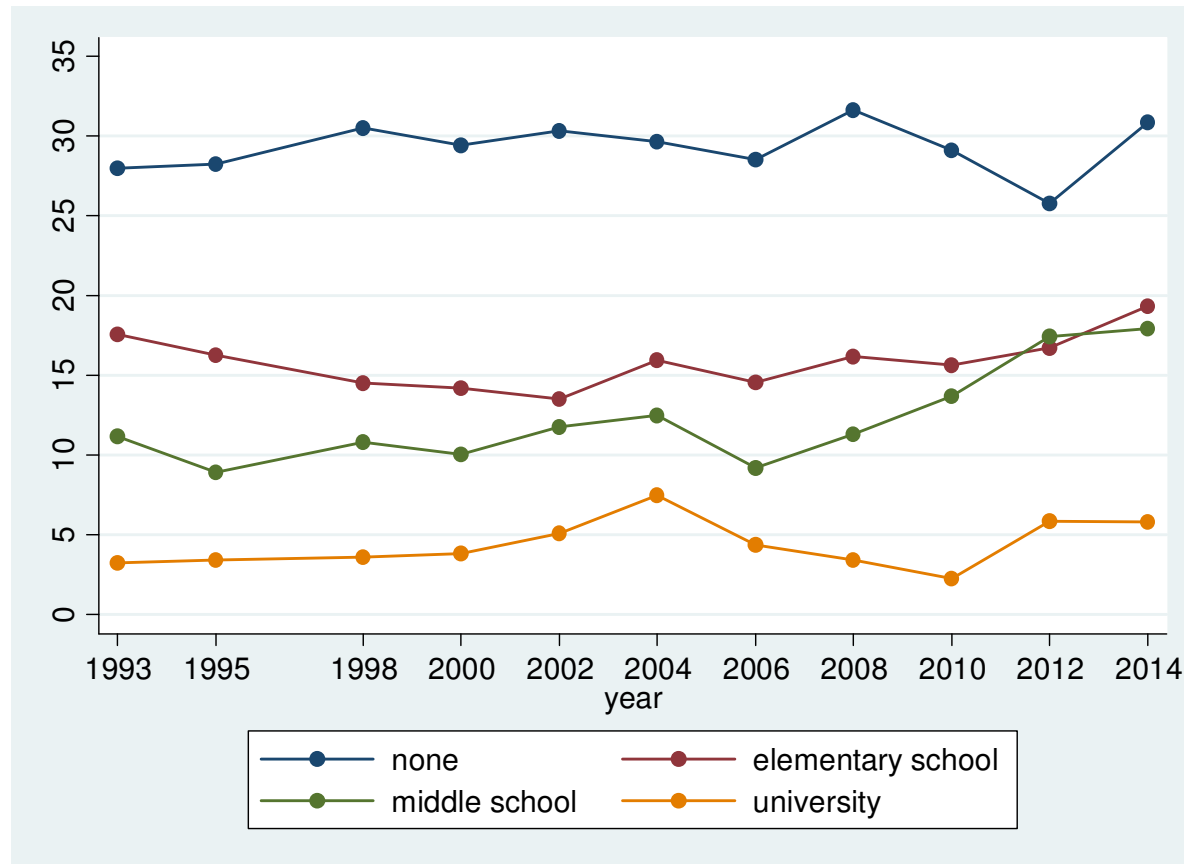
IG transmission of poverty

- Impossible to directly uncover the IG correlation in poverty in Italy due to lack of data
- No data matching the incomes of parents and children over a sufficiently long amount of years
- One could match children to pseudo-parents. i.e. individuals from same cohorts and education-occupation cells as their parents
- This is what IG researchers have done for transmission at the mean (Piraino, Mocetti)
- Or, one could directly look at education, which is what I do here
- No IG parameter, literally. But still suggestive evidence

Parental education and poverty

HH-father educational level	HCR
None	29.22
Primary	15.96
Lower secondary	12.74
Upper secondary	7.92
College	5.01
Total	18.48

Parental education and poverty



Intergenerational transmission of poverty

Determinants of household poverty

(Baseline = HH & HH father no education)

Baseline	HH Father no education= 0.29		HH & HH Father no education= 0.39	
	Marg.eff.	t-stat	Marg.eff.	t-stat
HH father's education				
elementary school	-0.11	17.99	-0.05	8.8
middle school	-0.16	21.82	-0.07	9.13
high school	-0.20	25.45	-0.08	7.53
university	-0.22	23.2	-0.09	5.58
HH education				
elementary school			-0.10	7.85
middle school			-0.19	13.64
high school			-0.28	19.58
university			-0.32	22.5

Evidence from Danish siblings

- The main challenges facing the analysis of IG associations in incomes are related with appropriate measurement
- The key income concept is «permanent income» reflecting the underlying ability of producing income
- Distinct from current income, which also depends on transitory events (luck)
- Permanent income is approximable with many observations on current income over time: taking the average neutralises the effect of transitory events

Evidence from Danish siblings

- Also, need observations on parents and children at the same point of their life trajectories
- Very demanding in data terms
- Register data from Scandinavian Countries represent a great opportunity for precise measurement
- These are of course the most egalitarian countries worldwide, and the two things are related

Evidence from Danish siblings

- I provide evidence about IG poverty correlations and sibling poverty correlations
- Looking at siblings is a way to grasp not only at the role of the parents, but also more in general to all factors that siblings may share on top of the parents (e.g. schools and neighborhoods)

Evidence from Danish siblings

- Fathers born 1935-1961, siblings born 1959-1985
- We model annual pre-tax labor earnings which are obtained from income tax returns, 1980 - 2014
- For each individual we observe an income string of 10 or more years
- Permanent income: individual average of the income string
- “Permanent poor”: Permanent income < 60% median permanent income

Evidence from Danish siblings

Prob(son is poor | father is poor) = 50.5 %

Prob(son is poor | father is not poor) = 41.5 %

$\Delta = 9\%$

IG correlation of poverty rates $r = 0.14$ Similar to IG correlation at the mean ($= 0.12$)

By birth order

$r = 0.18$ if first son;

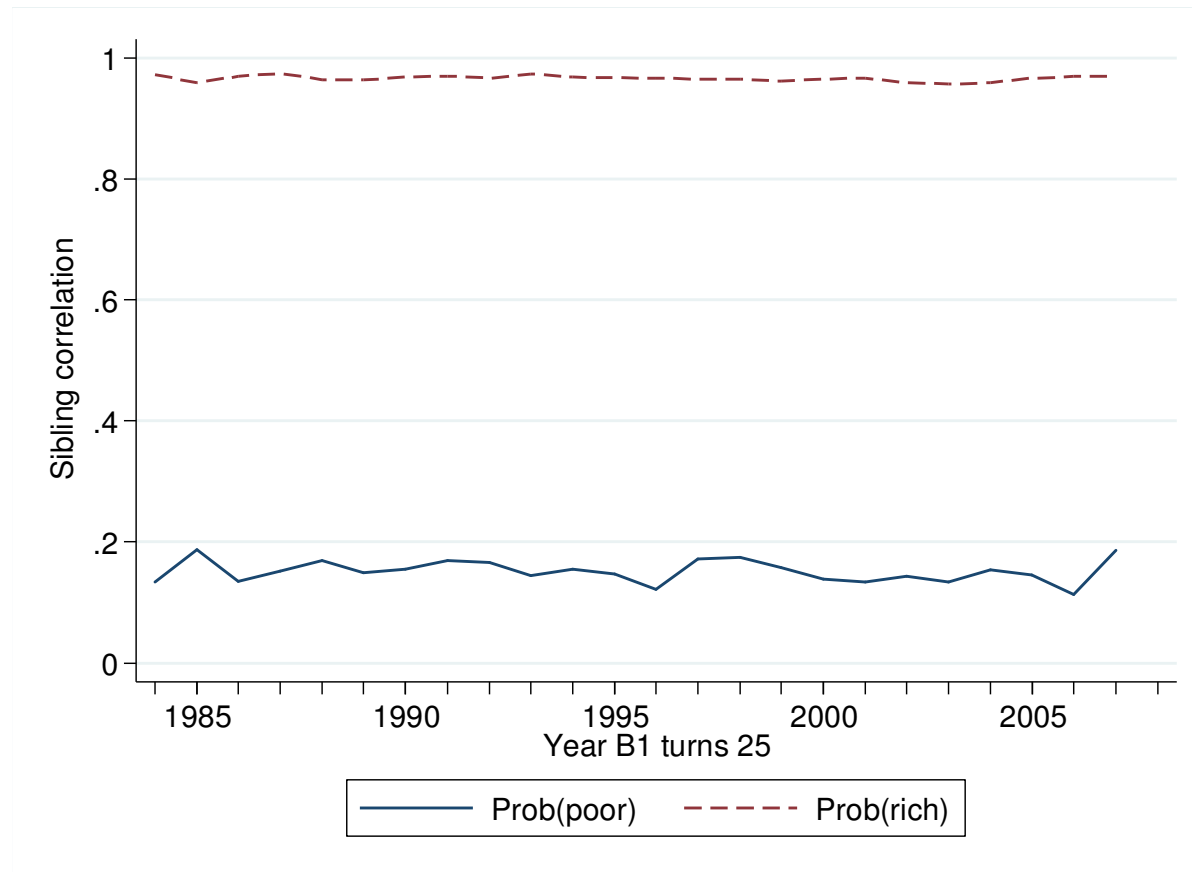
$r = 0.10$ if second son

$r = 1$ if consider the probability of being permanently rich ($> 140\%$ median) and invariant with birth order

Evidence from Danish siblings

- The sibling correlation of permanent poverty is larger: $r=0.23$
- There are additional poverty determinants that sibling share on top of their parents: e.g. peer effects
- Same as the sibling correlation in permanent incomes
- Note that both IG and sibling correlation in poverty are the same as correlation at the mean
- Sibling correlation in richness invariably high at 98%

Evidence from Danish siblings



Intergenerational transmission of poverty

Summing up

- In Italy symptoms of strong IG poverty persistence mediated by transmission of educational attainment
- In Denmark
 - Sibling correlations in poverty higher than IG ones
 - Sibling correlations grow with the level of income, suggestive of significant upward mobility but no downward mobility
- (Broad) Policy implications:
 1. raising educational levels today will reduce poverty in the next generation
 2. a well developed social protection system like flexicurity does not reduce the IG link at the bottom end of the income distribution
 3. neighborhood-based policies are effective in reducing poverty