

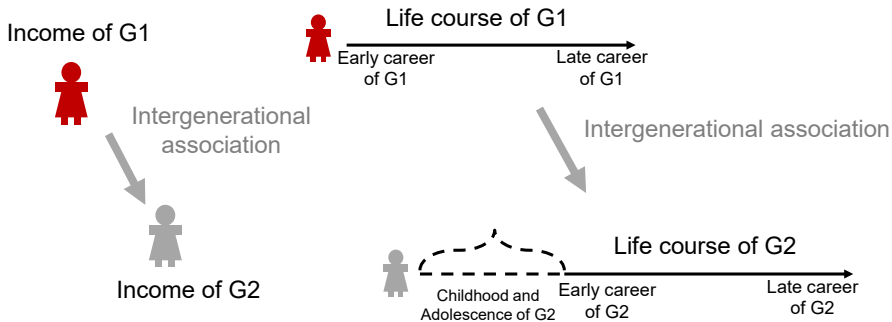
EXPLORING THE LINK BETWEEN INTER-GENERATIONAL AND INTRA-GENERATIONAL MOBILITY

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WORKSHOP ON STRENGTHENING THE EVIDENCE BASE TO IMPROVE
ECONOMIC AND SOCIAL MOBILITY IN THE UNITED STATES
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POINT-IN-TIME ASSOCIATIONS VS. LIFE-COURSE ASSOCIATIONS



INTERGENERATIONAL INCOME ELASTICITY (IGE)

Traditional Approach

- **Regress** offspring's log income on parents' log income
- Take a **static** approach: snap-shot or multi-year average

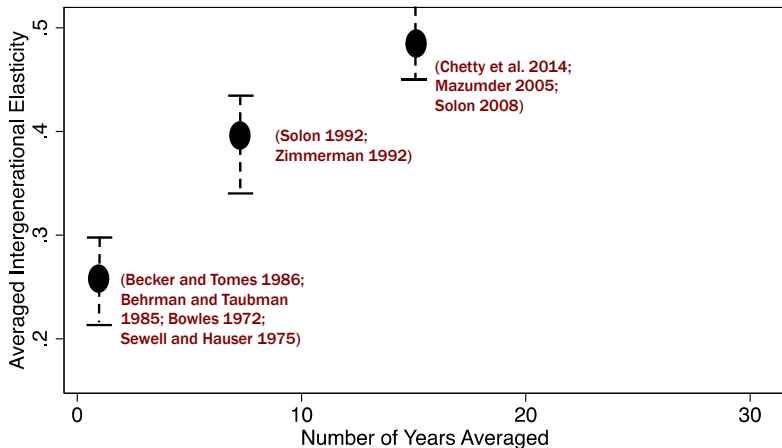
$$\log(Y_i^s) = \beta_0 + \beta_1 \log(Y_i^f) + \epsilon_i$$

Snap-Shot

$$\log(\bar{Y}_{it}^s) = \beta_0 + \beta_1 \log(\bar{Y}_{it}^f) + \epsilon_i$$

Multi-year average

IGE Measured by Averaging Over Multiple Years



RECENT TRENDS IN IGE

Hauser (2010)

"**Estimates** of magnitude of intergenerational **economic** persistence have tended to **rise** in recent years along with **improved** – or at least **fancier** – measurement and estimation procedures in **new** bodies of **data**, and using **new time-series** observations."

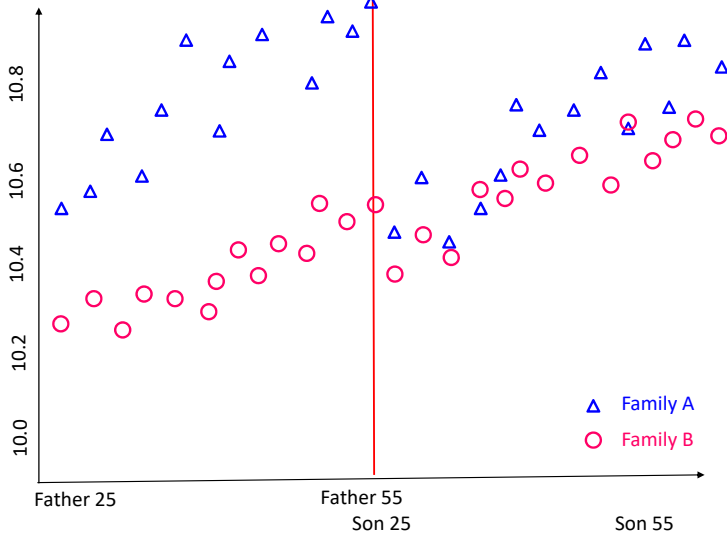
THE LINKED MOBILITY TRAJECTORY FRAMEWORK

1. Decompose trajectory over life course into four components

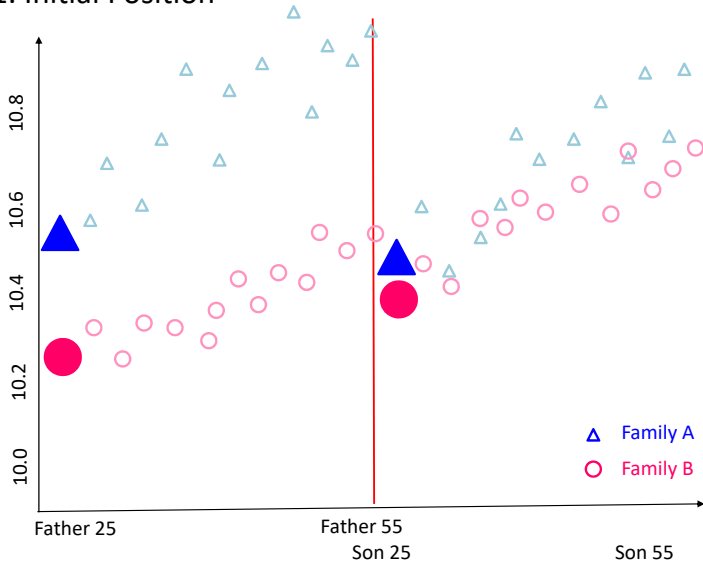
- (a). Initial Positions
- (b). Growth Rates
- (c). Growth Deceleration
- (d). Growth Volatility (stochastic component)

2. Incorporate intergenerational correlations in these components

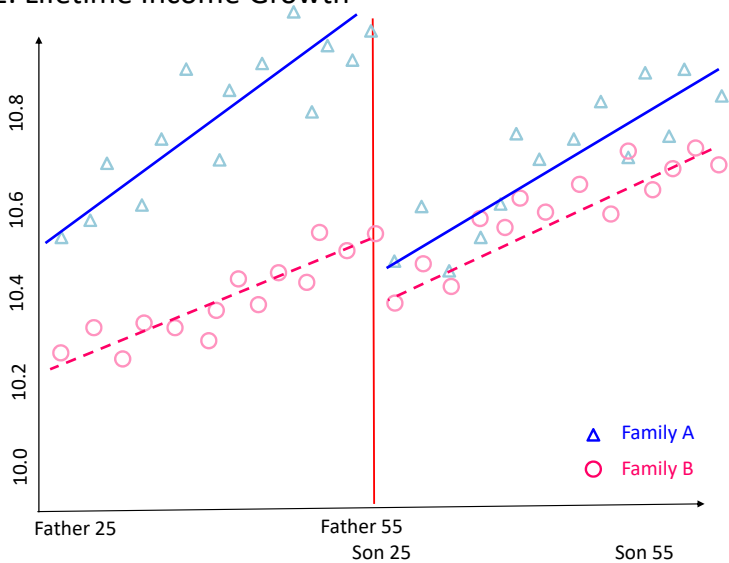
Observed Annual Log Earnings



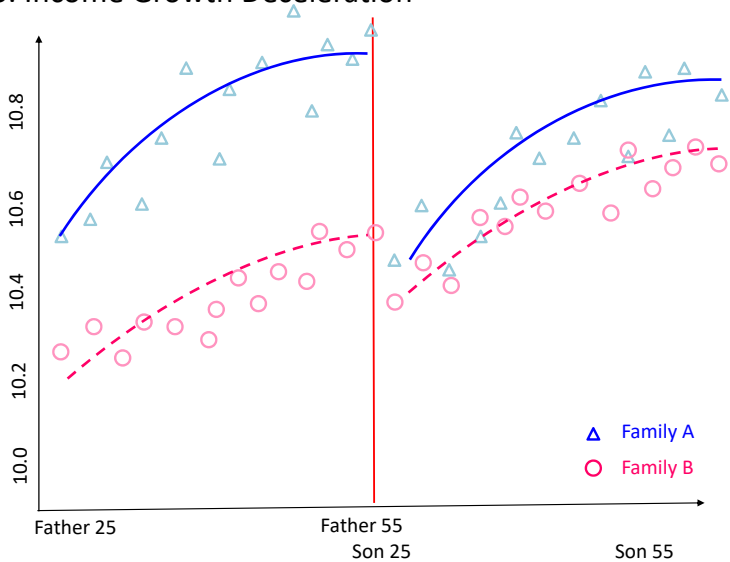
1. Initial Position



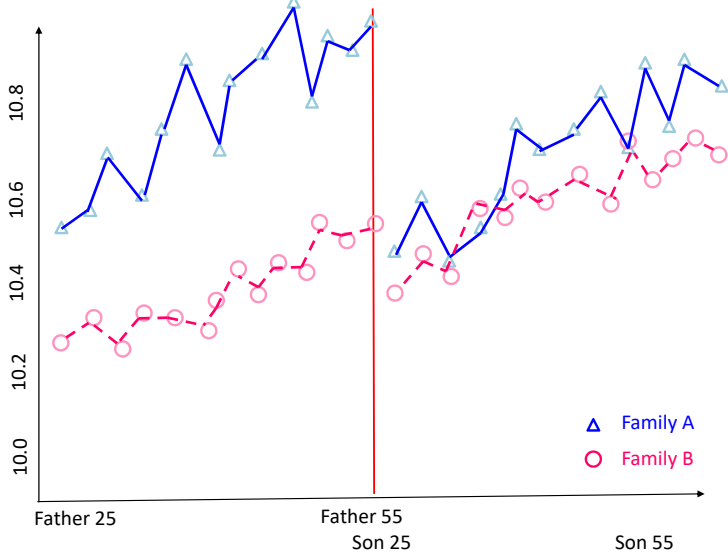
2. Lifetime Income Growth



3. Income Growth Deceleration



4. Income Volatility



LINKED TRAJECTORY MOBILITY MODEL (LTMM)

Intragenerational Trajectory

1. Growth Curve (intra corr.)
2. Residual Terms within Each Person are I.I.D.
3. Heterogeneous Volatility across Persons

Intergenerational Association

1. Dyadic Growth Curves (intra + inter corr.)
2. Correlated Residual Terms across Generations
3. Correlated Heterogeneous Volatility across Generations

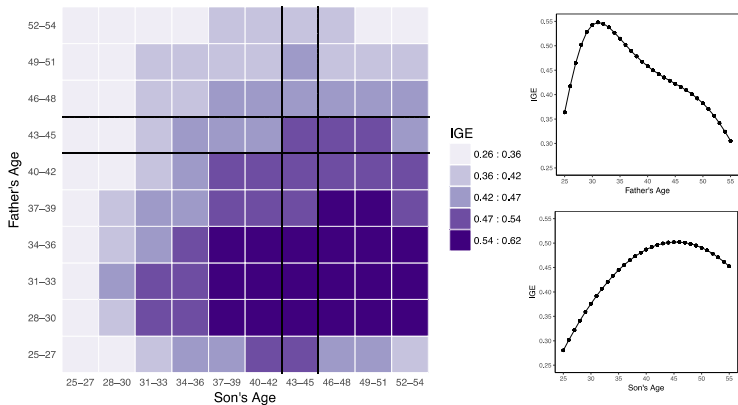


Figure 1 Intergenerational Elasticity (IGE) by Ages of Father and Son

Data sources: Panel Study of Income Dynamics, 1968-2017.

SEVERAL MYTHS ABOUT IGE ESTIMATES

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MOBILITY TABLE (TRANSITION MATRIX)

Frequencies

		Son's earnings quintiles					
Father's earnings quintiles		1	2	3	4	5	Total
1	Bottom 20%	10	4	3	2	1	20
2	Second 20%	4	8	4	2	2	20
3	Middle 20%	3	4	6	4	3	20
4	Fourth 20%	1	3	4	8	4	20
5	Top 20%	1	1	3	5	10	20
		20	20	20	20	20	100

MOBILITY TABLE

Mobility probabilities

Father's earnings quintiles		Son's earnings quintiles					Total
		1	2	3	4	5	
1	Bottom 20%	0.5	0.2	0.15	0.1	0.05	1.0
2	Second 20%	0.2	0.4	0.2	0.1	0.1	1.0
3	Middle 20%	0.15	0.2	0.3	0.2	0.15	1.0
4	Fourth 20%	0.05	0.15	0.2	0.4	0.2	1.0
5	Top 20%	0.05	0.05	0.15	0.25	0.5	1.0
		0.2	0.2	0.2	0.2	0.2	1.0

MOBILITY TABLE

Mobility probabilities

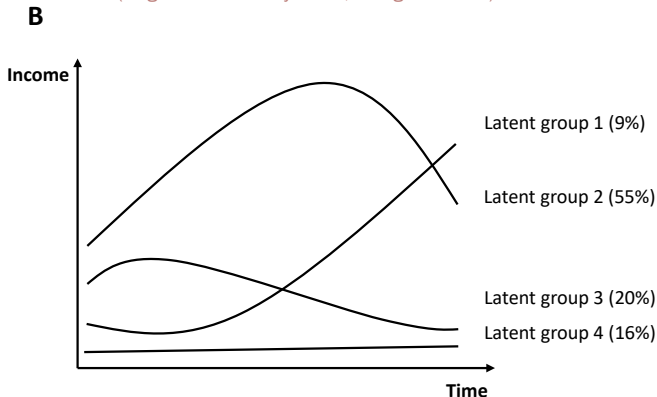
Father's earnings quintiles		Son's earnings quintiles					Total
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4	Fourth 20%	0.05	0.15	0.2	0.4	0.2	1.0
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A child's chances of "success": the probability that a child reaches the top quintile of the income distribution (Chetty et al. 2014).

POPULATION HETEROGENEITY OF LIFE-COURSE INCOME

A Group-Based View of Trajectories

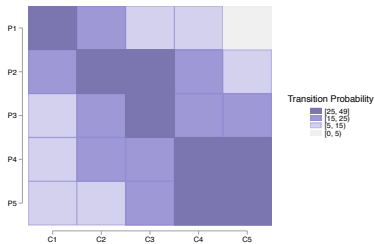
(Nagin and Tremblay 2005; Maughan 2005)



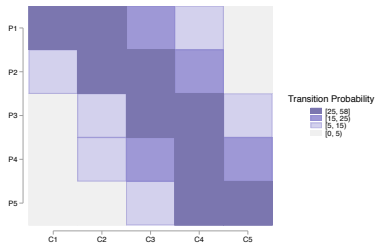
SUMMARY OF THE TRAJECTORY GROUPS

- **Group 1** (5-7%), the lower class with no or downward mobility
- **Group 2** (14-20%), the lower-middle class, with downward mobility
- **Group 3** (28-35%), the stable middle class
- **Group 4** (34-39%), the upper-middle class, with some upward mobility
- **Group 5** (5-15%), the upper-income class, with substantial upward mobility

INTERGENERATIONAL MOBILITY MATRIX



Income Quintile Approach



Income Trajectory Group Approach

CONCLUSION

1. Americans have experienced fundamental changes in their working lives.
2. Changes in economic status over the life cycle persist into the next generation.
3. Future research may consider a “linked lives” perspective across generations and among family members.