

Economic Mobility in America: A State-of-the-Art Primer

(Part 3: Trends in the United States)

by Scott Winship, *Archbridge Institute* (2018)

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1. Introduction

2. Concepts and Methods

METHODOLOGICAL CONSIDERATIONS

DATA SOURCES AND METHODS

Table 1: Descriptive Statistics, PSID And NLS Analyses

	PSID—Sons				PSID—Daughters			
	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Birth Years	1952-59	1960-67	1968-75	1976-83	1952-59	1960-67	1968-75	1976-83
Parent Income Years	1968-72	1976-80	1984-88	1992-96	1968-72	1976-80	1984-88	1992-96
Child Income Years	1982-94	1990-02	1998-10	2006-18	1982-94	1990-02	1998-10	2006-18
Sample Size	1,009	868	535	771	1,105	970	607	856
Median Father Age	42	42	42	42	42	43	42	43
10-90th Percentile Father Age	36-53	34-51	36-52	36-50	36-54	34-54	33-52	35-52
Median Mother Age	40	40	39	39	40	40	39	39
10-90th Percentile Mother Age	33-49	32-49	33-49	32-47	33-49	33-50	32-48	31-48
Median Parent Family Inc	68,992	77,450	81,059	82,747	64,352	78,986	76,453	77,120
10th Percentile Parent Inc	30,417	30,417	27,634	26,379	25,347	30,614	25,494	25,470
90th Percentile Parent In	121,474	138,946	153,393	179,589	122,001	147,190	153,393	169,736
Median Child Family Income	68,917	71,057	80,678	78,913	65,241	70,643	76,763	79,781
10th Percentile Child Inc	26,941	28,311	29,023	23,864	21,373	23,510	28,187	25,018
90th Percentile Child Inc	124,302	144,441	173,852	161,875	126,809	142,401	168,868	162,985
Ave. Unemp. Rate, Childhood	4.7	6.8	6.7	6.3	4.7	6.8	6.7	6.3
Ave. Unemp. Rate, Adulthood	7.0	5.6	5.7	6.2	7.0	5.6	5.7	6.2

Table 1: Descriptive Statistics, PSID And NLS Analyses, Cont'd

	NLS—Sons			NLS—Daughters		
	Cohort 1	Cohort 2	Cohort 3	Cohort 1	Cohort 2	Cohort 3
Birth Years	1949-51	1961-63	1982-84	1951-53	1962-64	1981-83
Parent Income Years	1966	1978	1996	1967	1978	1996
Child Income Years	1981	1993	2014	1984	1995	2014
Sample Size	704	1,113	1,352	628	1,048	1,316
Median Father Age	45	45	42	44	44	42
10-90th Percentile Father Age	37-53	38-56	35-50	37-54	37-56	36-50
Median Mother Age	40	42	40	41	40	40
10-90th Percentile Mother Age	34-48	36-53	34-47	35-49	34-51	34-48
Median Parent Family Inc	55,412	56,695	64,051	53,947	59,679	63,608
10th Percentile Parent Inc	16,883	19,049	15,932	19,571	17,904	14,895
90th Percentile Parent In	101,296	116,375	138,529	91,670	113,391	140,020
Median Child Family Income	53,709	57,130	69,039	53,969	60,621	73,353
10th Percentile Child Inc	19,914	17,766	16,181	10,962	14,397	12,945
90th Percentile Child Inc	95,471	122,331	161,821	107,947	127,454	172,598
Ave. Unemp. Rate, Childhood	3.8	6.1	5.4	3.8	6.1	5.4
Ave. Unemp. Rate, Adulthood	7.6	6.9	6.2	7.2	5.6	6.2

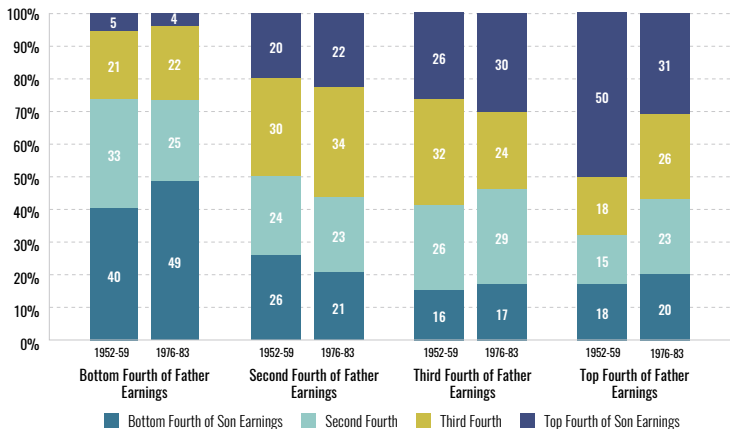
3. Relative Economic Mobility

SONS

- The first of this report's mobility trends are shown in Figure 1.
- I focus on the long-term trends and provide more detailed results in Appendix 2.
- The intermediate trends sometimes move up or down, often in ways that are inconsistent between the PSID and NLS.
- In part, this is because there is a fair amount of imprecision in the individual estimates.
- In part, the differences may reflect the different birth cohorts being examined.

- (The PSID data points are each for eight cohorts, while the NLS points are for three cohorts each.)
- In Figure 1, the PSID estimates for four cohorts and NLS estimates for three are displayed as lighter lines, while the dark lines display the linear trends through the four (or three) data points.
- The red lines display the IRA trend for male earnings, from the PSID.
- The trend shown by the light red line compares sons born 1952–59, 1960–67, 1968–75, and 1976–83, displaying the data points at 1955.5, 1963.5, 1971.5, and 1979.5.

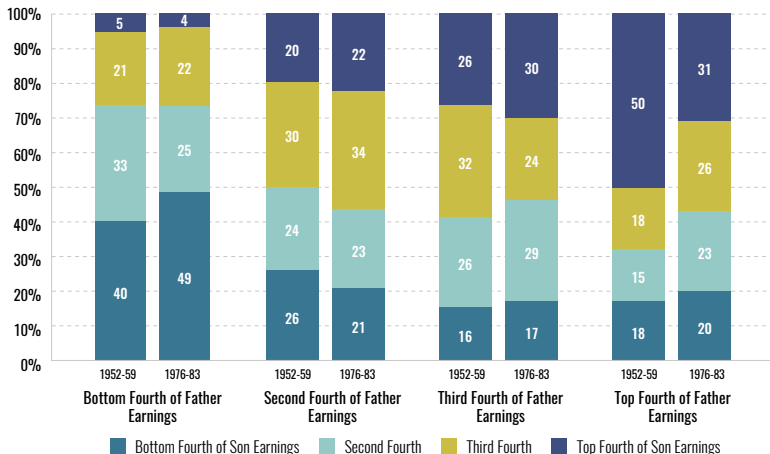
Figure 1: Sons' Income Rank Association (IRA), 1949-84 Birth Cohorts



Notes: Estimates are from the Panel Study of Income Dynamics and National Longitudinal Surveys. PSID analyses use four sets of birth cohorts, born 1952–59, 1960–67, 1968–75, and 1976–83. Sons' outcomes are averaged between the ages of 30 and 35 when observed (up to three times) 1982–94, 1990–2002, 1998–2010, or 2006–18. Parental income is averaged over up to five consecutive years, either 1968–1972, 1976–80, 1984–88, or 1992–96. NLS analyses use three sets of birth cohorts, born 1949–51, 1961–63, or 1982–84. Outcomes are measured between the ages of 30 and 32 when observed in 1981, 1993, or 2014. Parental income is measured in 1966, 1978, or 1996. For full methodological details, see Appendix 1. For point estimates and standard errors, see Appendix 2.

- Figure 2 displays four sets of bars, each of them depicting outcomes for men who grew up with fathers in a different part of the male earnings distribution.
- The left-most bars show results for the 25 percent of sons with the lowest-earning fathers, the next set does the same for the sons of the next-poorest quarter of fathers, the next bars apply to sons with fathers in the third quartile of earnings, and the right-most bars depict the 25 percent of sons raised by the highest-earning fathers.
- Within each set are two bars, one for the earliest and most recent set of PSID birth cohorts.

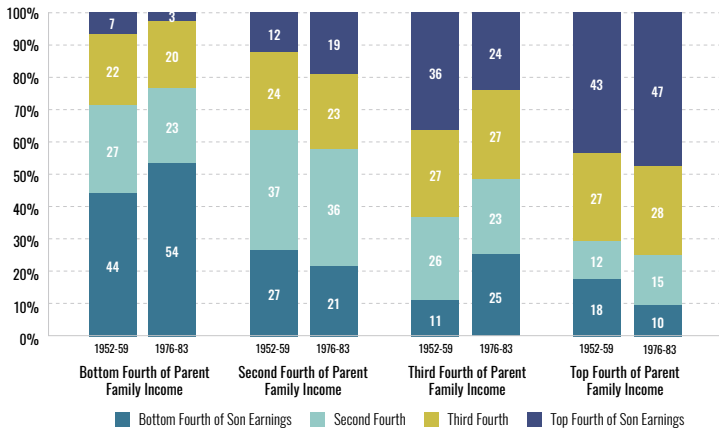
Figure 2: Sons' Income Rank Association (IRA), 1949-84 Birth Cohorts



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Sons' outcomes are averaged between the ages of 30 and 35 when observed 1982–94 or 2006–18. Each of the four sets of bars refers to adults whose father earnings during their adolescence was in a given quartile of the male earnings distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the earnings distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- Figure 3 again displays transition probabilities using the PSID data.
- There are four changes over time that achieve statistical significance.
- First, sons raised in the bottom fourth of parental income were less likely to make it to the top fourth as adults (left-most set of bars).
- This appears primarily to reflect more of them remaining in the bottom fourth, but that change is not statistically significant.
- Second, sons who started in the top fourth became less likely to end up in the bottom fourth (right-most set of bars).

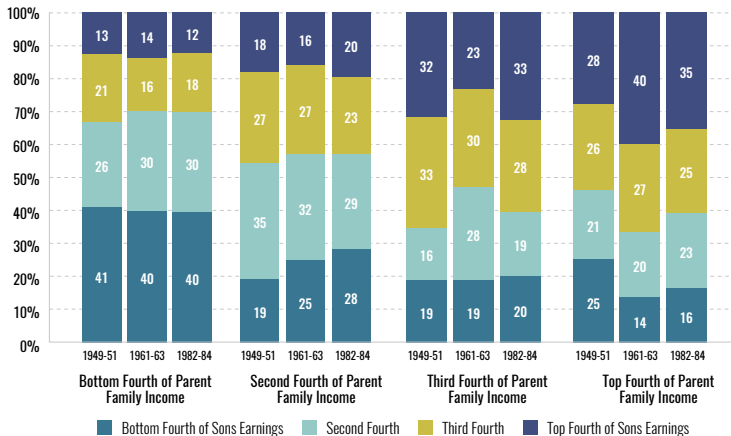
Figure 3: Transition Probabilities By Birth Cohort, Parental Family Income vs. Son Earnings, PSID



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Sons’ outcomes are averaged between the ages of 30 and 35 when observed 1982–94 or 2006–18. Each of the four sets of bars refers to adults whose father earnings during their adolescence was in a given quartile of the male earnings distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the earnings distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- Figure 4 presents the change in relative mobility in the NLS data.
- There are four sets of three bars, with each bar representing an NLS cohort of sons, born 1949–1951, 1961–63, or 1982–84.
- Only two changes between the NLSYM and NLSY97 are statistically significant.

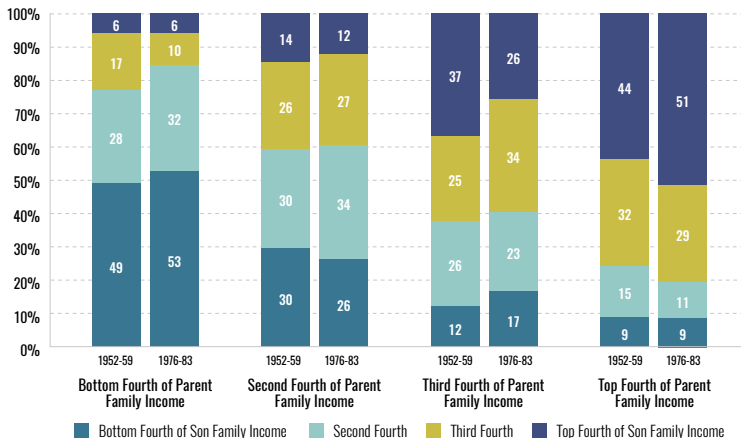
Figure 4: Transition Probabilities By Birth Cohort, Parental Family Income vs. Son Earnings, NLS



Notes: Estimates are from the National Longitudinal Surveys. The analyses use three sets of birth cohorts, born 1949–51, 1961–63, or 1982–84. Outcomes are measured between the ages of 30 and 32 when observed in 1981, 1993, or 2014. Each of the four sets of bars refers to adults whose family income during their adolescence was in a given quartile of the income distribution. Each of the three bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the earnings distribution. For full methodological details, see Appendix 1.

- Figure 5 is analogous to Figure 3, showing transition probabilities in the PSID, but this time the outcome is where sons end up in the family income distribution.
- Two trends are statistically significant.
- The share of sons raised in the bottom fourth who ended up in the third quartile fell from 17 percent to 10 percent (left-most set of bars).
- The share of sons raised in the third quartile who ended up in the top quartile fell from 37 percent to 26 percent (third set of bars).
- Thus, upward mobility fell over time.

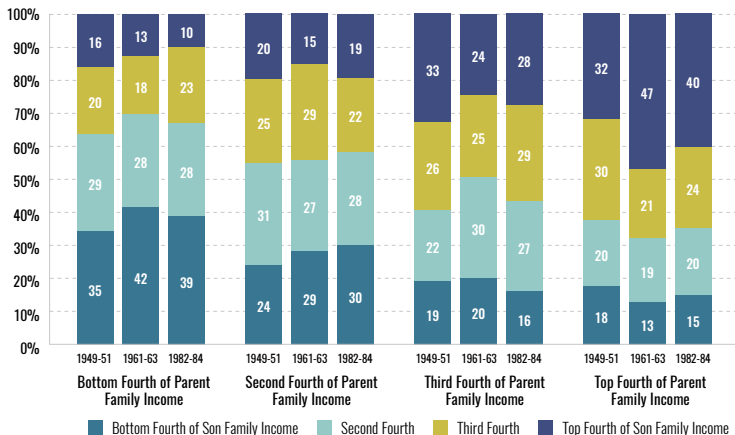
Figure 5: Transition Probabilities by Birth Cohort, Parental Family Income vs. Son Family Income, PSID



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Sons’ outcomes are averaged between the ages of 30 and 35 when observed 1982–94 or 2006–18. Each of the four sets of bars refers to adults whose family income during their adolescence was in a given quartile of the income distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the family income distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- Transition probabilities in the NLS are shown in Figure 6.
- Over the entire period, there are two trends worth highlighting for their statistical significance.
- First, over time, the likelihood of rising from the bottom fourth of parental income to the top fourth of family income may have fallen (left-most set of bars).
- In the NLSYM, 16 percent of sons raised in the bottom fourth made it to the top fourth, but that fell to 13 percent in the NLSY79 and 10 percent in the NLSY97.
- That is consistent with the fall in upward mobility in the PSID.

Figure 6: Transition Probabilities by Birth Cohort, Parental Family Income vs. Son Family Income, NLS

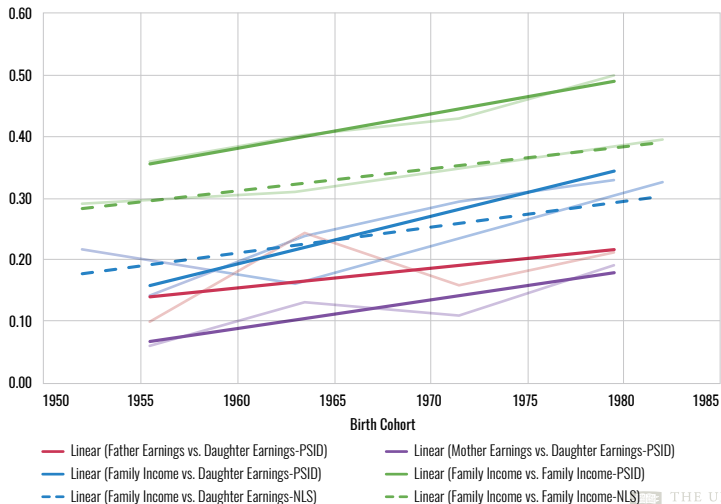


Notes: Estimates are from the National Longitudinal Surveys. The analyses use three sets of birth cohorts, born 1949–51, 1961–63, or 1982–84. Outcomes are measured between the ages of 30 and 32 when observed in 1981, 1993, or 2014. Each of the four sets of bars refers to adults whose family income during their adolescence was in a given quartile of the income distribution. Each of the three bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the family income distribution. For full methodological details, see Appendix 1. For standard errors, see Appendix 2.

DAUGHTERS

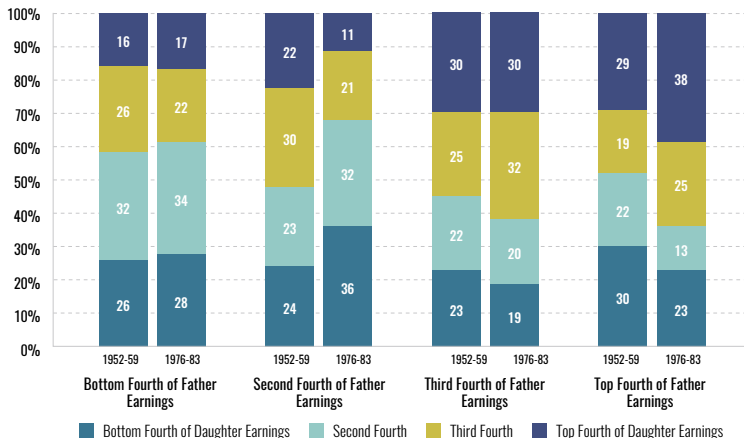
- Figure 7 includes IRA trends for daughters in the PSID and the NLS.
- Once again, comparisons involving parents' earnings are not possible in the NLS, but the dark red line shows the IRA trend in the PSID comparing daughters' earnings to those of their fathers.
- The increase in the IRA between the 1952–59 cohorts and 1976–83 cohorts, from 0.10 to 0.21 is not statistically significant, but like the other trends in Figure 7 (and most in Figure 1 for sons), it suggests a decline in mobility.

Figure 7: Daughters' Income Rank Association (IRA), 1951-83 Birth Cohorts



- Figure 8 displays transition probabilities, comparing the first and last sets of birth cohorts.
- Only one change achieves statistical significance.
- Daughters in the second quarter of father earnings became less likely to rise to the top fourth themselves over time (falling from 22 percent to 11 percent, second set of bars).

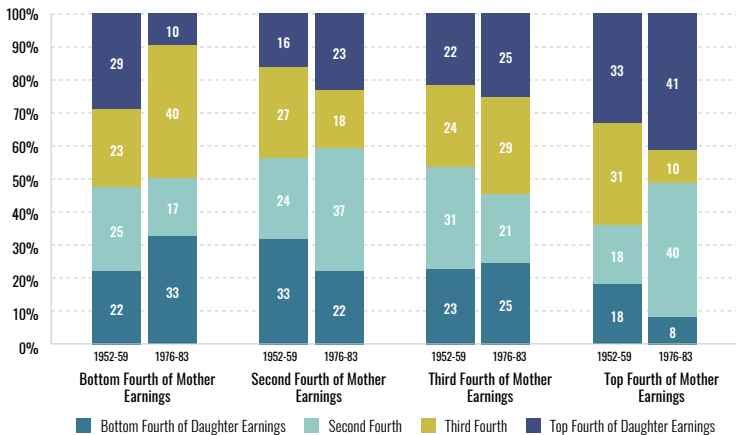
Figure 8: Transition Probabilities by Birth Cohort, Father Earnings vs. Daughter Earnings



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Daughters’ outcomes are averaged between the ages of 30 and 35 when observed 1982–94 or 2006–18. Each of the four sets of bars refers to adults whose father earnings during their adolescence was in a given quartile of the male earnings distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the earnings distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- Figure 9 reveals that the decline in female earnings mobility is primarily due to falling upward mobility among daughters with the lowest-earning mothers.
- Two of the trends in the left-most set of bars are statistically significant.
- The share of daughters starting in the bottom fourth who made it to the top fourth fell, while the share that made it to the third fourth rose.
- Mobility out of the bottom was high for the 1952–59 birth cohorts, probably because more daughters worked (or worked more) compared with their mothers.

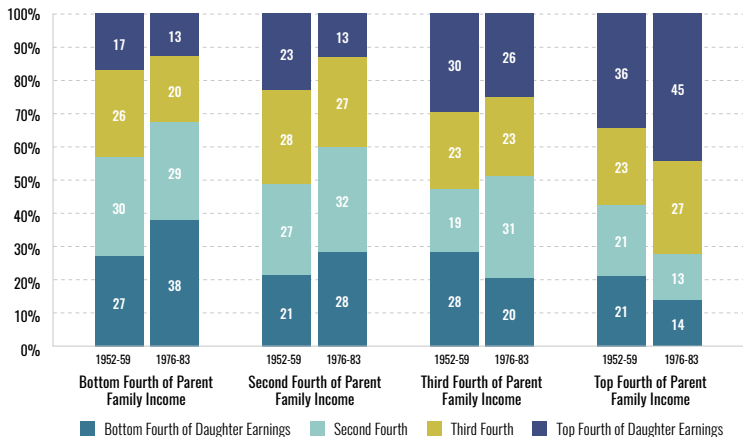
Figure 9: Transition Probabilities by Birth Cohort, Mother Earnings vs. Daughter Earnings



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Daughters' outcomes are averaged between the ages of 30 and 35 when observed 1982–94 or 2006–18. Each of the four sets of bars refers to adults whose mother earnings during their adolescence was in a given quartile of the female earnings distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the earnings distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- PSID transition probabilities are shown in Figure 10.
- The decline in mobility found in Figure 7 seems to be driven both by reduced upward mobility from the bottom and downward mobility from the top.
- The 11-point increase in the share of daughters starting in the bottom fourth who remained there as adults was marginally statistically significant.
- Otherwise, the share moving from the second quartile to the top quartile fell, and the share falling from the third to the second quartile fell.

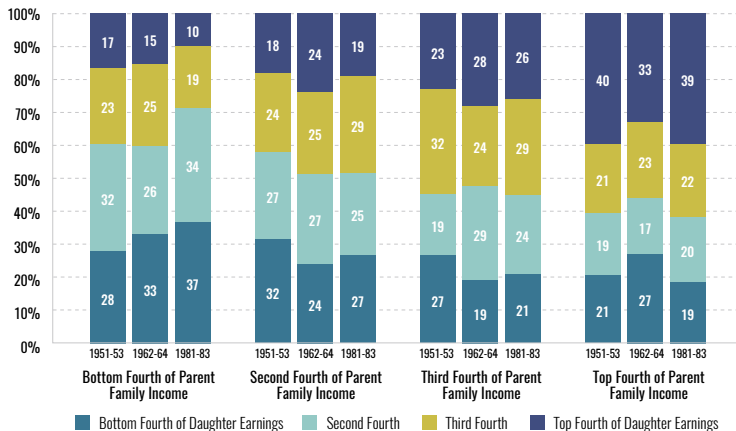
Figure 10: Transition Probabilities by Birth Cohort, Parental Family Income vs. Daughter Earnings, PSID



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Daughters' outcomes are averaged between the ages of 30 and 35 when observed 1982–94 or 2006–18. Each of the four sets of bars refers to adults whose family income during their adolescence was in a given quartile of the income distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the earnings distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- Figure 11 presents the transition probabilities in the NLS.
- Here the decline in mobility appears to be due to reduced upward mobility.
- The share of women who started in the bottom fourth and remained there as adults rose substantially over time, from 28 percent in the NLSYW to 33 percent in the NLSY79 and to 37 percent in the NLSY97 (leftmost set of bars).
- Between the NLSY79 and NLSY97, daughters starting in the bottom fourth became more likely to end up in the second fourth (rather than the top half).

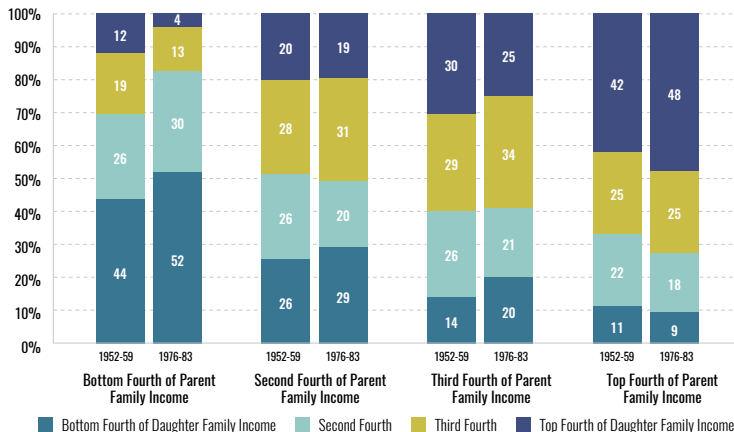
Figure 11: Transition Probabilities by Birth Cohort, Parental Family Income vs. Daughter Earnings, NLS



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Daughters' outcomes are averaged between the ages of 30 and 35 when observed 1982–94 or 2006–18. Each of the four sets of bars refers to adults whose family income during their adolescence was in a given quartile of the income distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the earnings distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- To complete the relative mobility analyses, Figures 12 and 13 compare parent family income to daughters' family income using transition probabilities.
- In the PSID (Figure 12), there is a single statistically significant change—daughters starting out in the bottom fourth became less likely to make it to the top fourth (left-most set of bars).

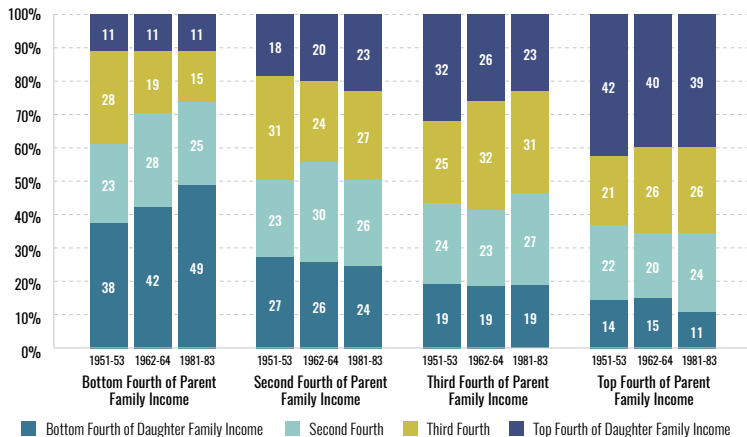
Figure 12: Transition Probabilities by Birth Cohort, Parental Family Income vs. Daughter Family Income, PSID



Notes: Estimates are from the Panel Study of Income Dynamics. The analyses compare two sets of birth cohorts, one born 1952–59, the other 1976–83. Daughters’ outcomes are averaged between the ages of 30 and 35 when observed 1982–84 or 2006–18. Each of the four sets of bars refers to adults whose family income during their adolescence was in a given quartile of the income distribution. Each of the two bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the family income distribution. For full methodological details, see Appendix 1. For results for 1960–67 and 1968–75 cohorts and standard errors, see Appendix 2.

- There are three trends of note in the NLS (Figure 13).
- First, immobility within the bottom fourth has increased substantially over 30 years.
- In the NLSYW, 38 percent of daughters with parents in the bottom quarter were still there themselves, compared with 49 percent by the NLSY97 (left-most set of bars).
- This increase is reflected in the decline in the share who start in the bottom but rise to the third quarter (the second meaningful trend, also in the left-most set of bars).

Figure 13: Transition Probabilities by Birth Cohort, Parental Family Income vs. Daughter Family Income, NLS



Notes: Estimates are from the National Longitudinal Surveys. The analyses use three sets of birth cohorts, born 1951–53, 1962–64, or 1981–83. Outcomes are measured between the ages of 31 and 33 when observed in 1984, 1995, or 2014. Each of the four sets of bars refers to adults whose family income during their adolescence was in a given quartile of the income distribution. Each of the three bars in each set refers to a cohort of adults. Each segment within each bar refers to the share of adults ending up in a given quartile of the family income distribution. For full methodological details, see Appendix 1. For results standard errors, see Appendix 2.

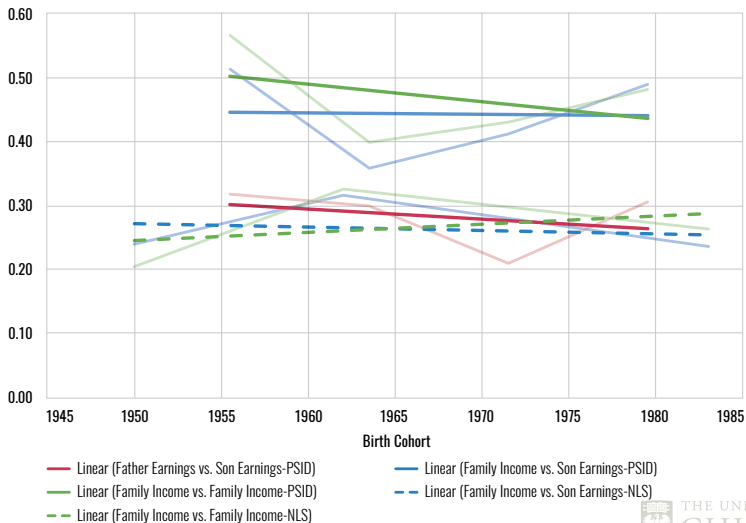
SUMMARY OF RELATIVE MOBILITY TRENDS

4. Absolute Economic Mobility—Intergenerational Elasticity

SONS

- The dark red line in Figure 14 shows the IGE trend for male earnings, using the PSID.
- As in Figure 1, the data points in the light red line are plotted at 1955.5, 1963.5, 1971.5, and 1979.5, representing sons born 1952–59, 1960–67, 1968–1975, and 1976–83, with their outcomes averaged between the ages of 30 and 35.
- One difference between the IGE and IRA analyses is that parents and sons with no income (or negative income) are omitted this time.

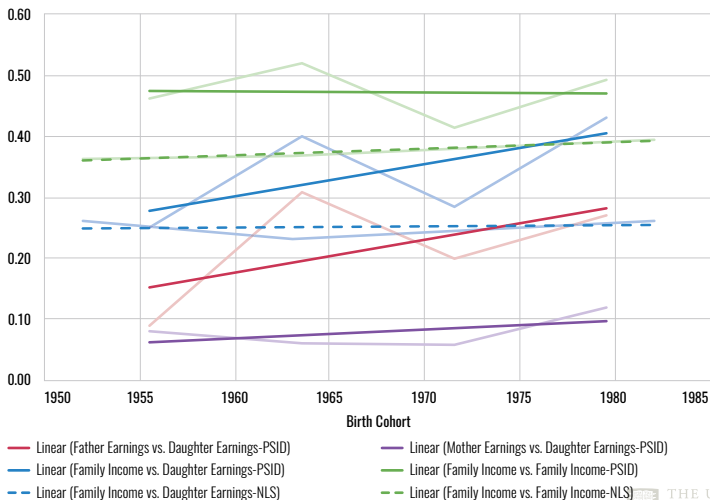
Figure 14: Transition Probabilities by Birth Cohort, Parental Family Income vs. Daughter Family Income, NLS



DAUGHTERS

- Figure 15 displays the same trends for daughters shown in Figure 14 for sons.
- The red lines compare father and daughter earnings in the PSID, using the same birth cohorts as for men.
- The lighter line shows an increase in the IGE (a fall in mobility) from 0.09 in the earliest cohorts to 0.27 in the most recent ones.
- This change, while large, again falls short of statistical significance.

Figure 15: Daughters' Intergenerational Elasticity (IGE), 1951-83 Birth Cohorts



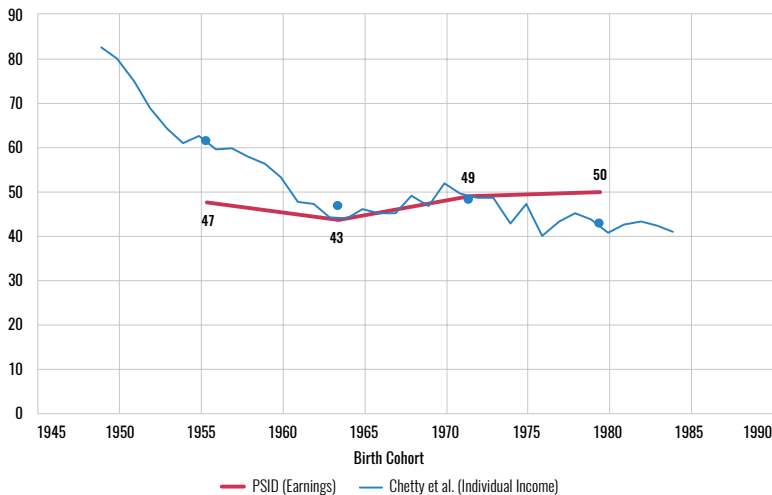
SUMMARY OF IGE TRENDS

5. Absolute Economic Mobility—Surpassing Parental Income

SONS

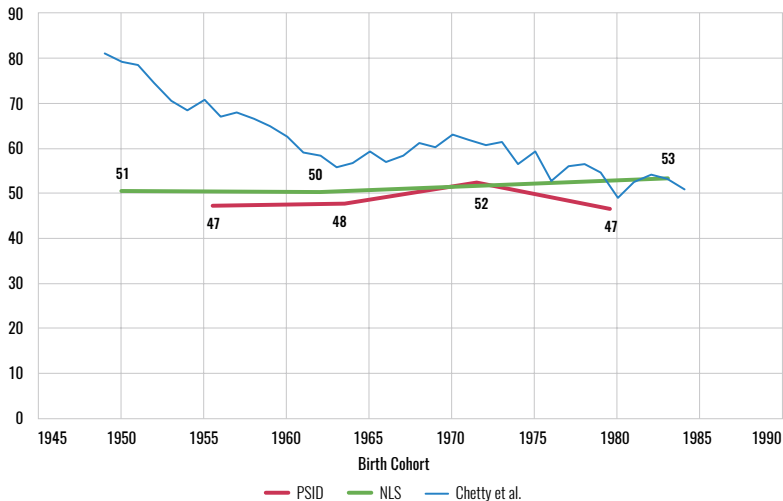
- The red line in Figure 16, below, displays estimates of absolute family income mobility for the four sets of PSID cohorts.
- For cohorts born 1952–59, 47 percent of sons had higher earnings in their early 30s than their fathers had when the sons were between the ages of 8 and 21.
- The figure for sons born 1976–83 was 50 percent—no different in the sense of being statistically significant.

Figure 16: Percent of Sons Exceeding their Fathers' Earnings



- Figure 17 repeats the analysis in Figure 16 but compares sons' family income to that of their parents.
- The red line shows the PSID trend, with absolute mobility flat over the long run at 47 percent.
- (The 52 percent rate for the 1968–75 cohorts is higher than the 1952–59 rate.)
- After adjusting incomes for family size (not shown), absolute mobility is higher for each set of cohorts, because the rise in income over time has occurred while family size has fallen.
- More importantly, absolute mobility falls from 66 percent to 56 percent, a change that is statistically significant.

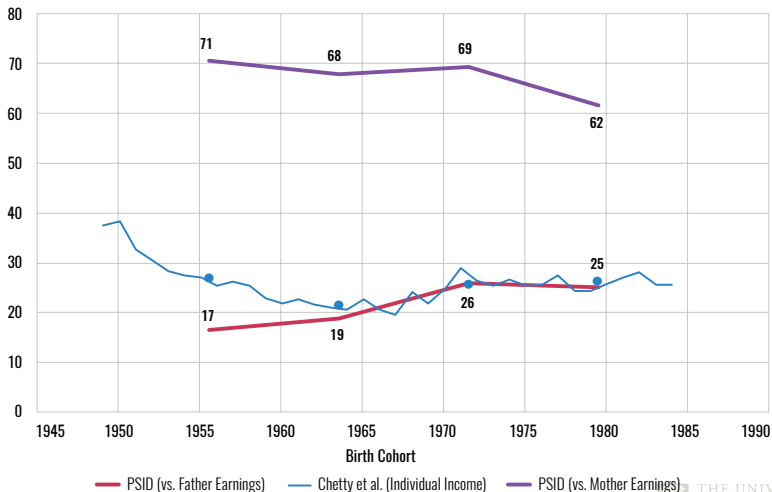
Figure 17: Percent of Sons Exceeding their Parents' Family Income



SONS

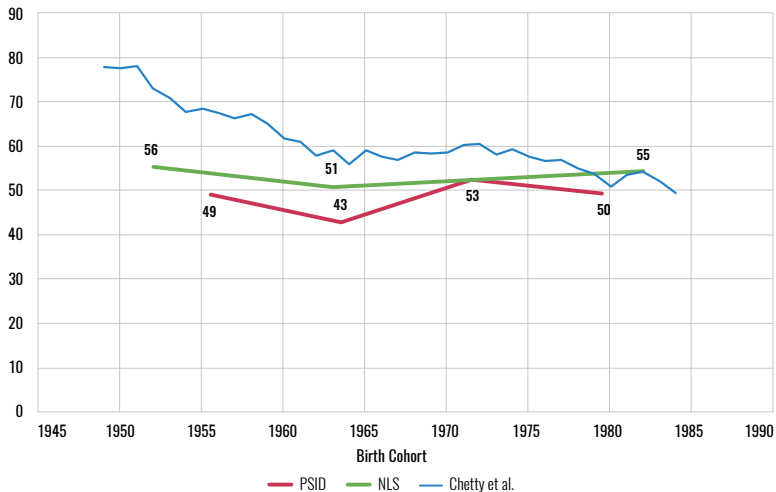
- Absolute mobility trends comparing PSID daughters' and fathers' earnings are shown in the red line in Figure 18.
- Absolute mobility rises—while 17 percent of daughters born 1952–59 exceeded their fathers' earnings, that was true of 25 percent of daughters born 1976–83.
- The blue line displays the corresponding estimates from Chetty et al., comparing daughters' and fathers' individual incomes.
- The estimates are surprisingly close.

Figure 18: Percent of Daughters Exceeding their Fathers' and Mothers' Earnings



- The final set of mobility estimates presented in this paper are shown in Figure 19.
- The red line shows the share of PSID daughters whose family income exceeds that of their parents.
- The change is minimal over time, and not statistically significant.
- If incomes are adjusted for family size (not shown), the initial drop is larger (from 64 percent to 53 percent) and the subsequent recovery (to 57 percent) is small enough that the decline between the first and last cohorts is statistically significant.

Figure 19: Percent of Daughters Exceeding their Parents' Family Income



SUMMARY OF UPWARD ABSOLUTE MOBILITY TRENDS

6. Conclusion