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Is intergenerational economic mobility lower now than in the past?

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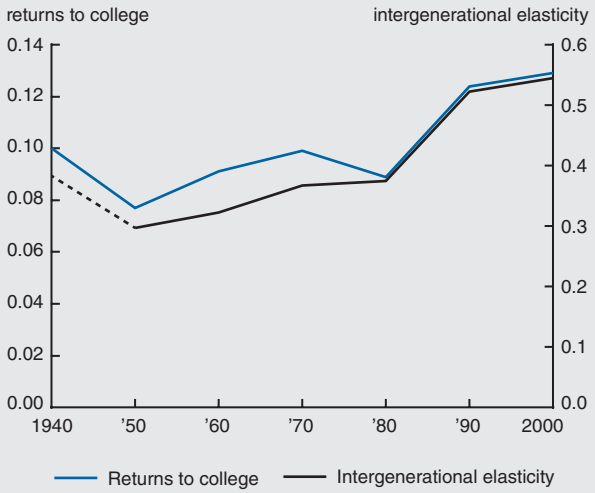
This article presents evidence on long-term trends in intergenerational economic mobility in the United States and considers the prospects for intergenerational mobility going forward.

In the wake of the Great Recession and the growth in income inequality over recent decades in the United States, the degree of economic mobility over generations has become an increasingly salient issue. A recent *New York Times* article highlighted the growing evidence showing that intergenerational economic mobility appears to be lower in the United States than in other advanced countries.[1] President Obama and Republican presidential candidates have also referenced intergenerational mobility as being an issue of concern.[2] One dimension of this issue that is not well understood, however, is whether intergenerational mobility has been *changing over time* and whether the prospects for mobility have been hampered for children growing up in families that have been hard hit by the recent economic downturn.

1. Returns to college and intergenerational elasticity



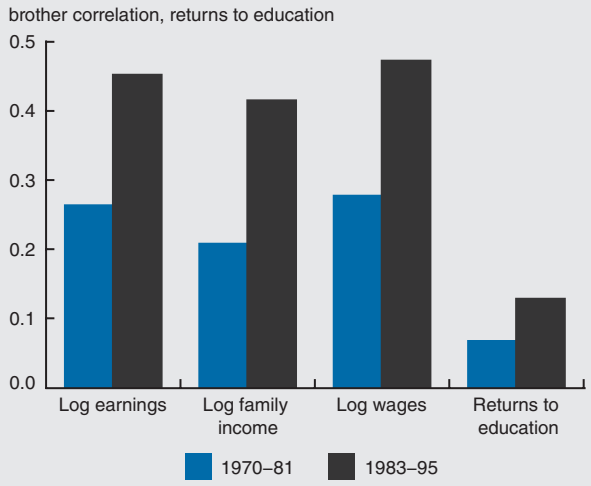
NOTES: Units are percentage points. The intergenerational elasticity for 1950 to 2000 uses estimates from table 1, column 2 of Aaronson and Mazumder (2008). The 1940 estimate is projected based on the results from table 2, column 2.

SOURCES: Aaronson and Mazumder (2008); Goldin and Katz (1999).

This *Chicago Fed Letter* discusses some of the research on trends in intergenerational mobility. I begin by describing how intergenerational economic mobility is commonly measured and show that, conceptually, it is a "backwards-looking" measure that describes the mobility experience of individuals born decades earlier. I then discuss two distinct approaches I have used in previous studies to study long-term trends in intergenerational mobility. After staying relatively stable for several decades, intergenerational mobility appears to have declined sharply at some point between 1980 and 1990, a period in which both income inequality and the economic returns to education rose sharply. This finding is also consistent with theoretical models of intergenerational mobility that emphasize the role of human capital formation. There is fairly consistent evidence that intergenerational mobility has stayed roughly constant since 1990 but remains below the rates of mobility experienced from 1950 to 1980.

Although we cannot say with any certainty how much mobility today's children will experience over the coming decades, recent research suggests cause for concern. The gap in children's academic performance between high- and low-income families has widened significantly over the last few decades. If this trend persists, it would point to reduced intergenerational economic mobility going forward.

2. Changes in brother correlations over time



SOURCE: Levine and Mazumder (2007).

Economic models and measures of intergenerational mobility

Before discussing trends in intergenerational economic mobility, it may be useful to explain how economists think about intergenerational mobility and why it might have changed over time. Economic models have emphasized the importance of parental investment in children's human capital as one of the key mechanisms behind the intergenerational transmission of labor market earnings. One such model developed by Solon[3] points to at least two important factors that could cause intergenerational mobility to change over time: changes in the labor market returns to education and changes in the public provision of human capital. In periods where the returns to schooling are rising, the payoff to a given level of parental investment in children's human capital will be larger, causing differences between families to persist longer and leading to a decline in intergenerational mobility. In contrast, during periods where public access to schooling becomes more widely available, then one might expect the intergenerational association to decline and mobility to rise.

The most commonly used measure of intergenerational mobility is the "intergenerational income elasticity," which captures the association between the income of a child (in adulthood) and the income of his or her parent.[4] Both incomes are measured in logs so that the association can be interpreted in percentage terms. An intergenerational elasticity of 0.5, for example, implies that if a father's income was 10% above the mean in one generation, we would expect the son's income in the next generation to be 5% above the mean. A smaller intergenerational elasticity suggests less persistence in inequality and greater mobility, while a larger intergenerational elasticity is associated with less intergenerational mobility. Studies that have used the income of men in the labor market during the 1990s and 2000s point to an intergenerational elasticity of around 0.5 or 0.6 in the U.S., while estimates are typically in the 0.2 to 0.3 range for Canada and several Nordic countries. Researchers are only beginning to understand the causes behind these differences, but the findings thus far suggest that there may be less economic opportunity in the U.S. than in other industrialized countries.

To estimate the intergenerational elasticity, researchers try to gather individual-level data on the income of both parents and children during their prime earning years and preferably for long stretches of time. Therefore, in some respects the intergenerational elasticity is inherently a backwards-looking measure that can only be measured after the mobility experience has been completed. So while it is certainly possible to construct an estimate of intergenerational mobility for individuals in today's labor market, mobility is only well measured for individuals who were born prior to around 1970 and may not reflect the degree of opportunity available to children born today.

Previous studies of long-term trends in intergenerational mobility

Since economic theory has emphasized the returns to schooling as a key potential driver of trends in intergenerational mobility, it makes sense to measure intergenerational mobility during periods in which the returns to schooling is known to have changed sharply. Using historical census data, Goldin and Katz[5] show that the returns to college in the labor market dropped from 1940 to 1950, stayed relatively steady between 1950 and 1980, and then rose after 1980. Although there is no available data set that links the earnings of parents to those of their children for most of the twentieth century, one can use an alternative methodology to study intergenerational mobility during these critical periods. Aaronson and Mazumder[6] use historical census data to create "synthetic" families by linking children born in a particular year and state to the average income of parents from that state in a prior census. Using this approach, they document trends in the intergenerational elasticity that closely match patterns in the returns to college data estimated by Goldin and Katz (1999). Figure 1 shows that the two periods where the returns to college changed sharply (1940–50 and 1980–90) coincide with turning points in the intergenerational elasticity. These estimates suggest that rates of intergenerational mobility since 1990 are lower than what they were in the decades following World War II.

A second paper I co-authored used a very different approach to try to identify changes in intergenerational mobility that occurred around 1980. Specifically, Levine and Mazumder[7] estimate income correlations among brothers around this time. The correlation in income between siblings provides an omnibus measure of the combined effects of all family background characteristics shared by siblings that influence future income. Therefore, in addition to measuring the effects of parent income, it also captures other, harder-to-measure influences, such as parenting skills. The larger the sibling correlation, the more important the role of family background is.

Levine and Mazumder use two separate surveys that tracked young men from adolescence to adulthood. The first sample is of men born between 1942 and 1952 whose income was measured between 1970 and 1981. The second sample features men born between 1957 and 1965 whose income was measured between 1983 and 1995. Figure 2 shows that the sibling correlation in wages, earnings, and family income all increased markedly across these periods. For example, the brother correlation in annual earnings rose from 0.26 to 0.45. This occurred at the same time that the returns to education increased sharply from 7% to 13%. Bloome and Western[8] use the same survey data and find a significant rise in the intergenerational elasticity over this period. Using data on Swedish men, Björklund, Jäntti, and Lindquist[9] also report a modest increase in both the brother correlation in earnings and the returns to education across a similar group of birth cohorts as in Levine and Mazumder (2007).

On the other hand, two very carefully done studies of trends in intergenerational mobility in the U.S. using the University of Michigan's Panel Study of Income Dynamics (PSID) have shown very little change over the past few decades.[10] In my view, the PSID is best suited for producing reliable estimates of intergenerational mobility only beginning around the mid- to late 1980s, which is after the notable rise in the returns to schooling that began around 1980. Therefore, it may not be surprising that studies using the PSID do not detect any decline in mobility.[11] In any case, the results from Aaronson and Mazumder and the studies using the PSID are in broad agreement that intergenerational mobility has been roughly flat since 1990.

Interpreting the intergenerational elasticity

There are a few points worth keeping in mind when thinking about the intergenerational elasticity. First, it is a measure of *relative* mobility. It describes how relative income differences between families change over a generation and, therefore, provides some insight into the degree of opportunity available in a society. However, it does not say anything about how the *absolute* level of income changes. It could be that children born into a typical poor family may obtain a significantly higher standard of living than their parents even if they cannot narrow the percentage earnings gap they face relative to other families. Second, the measure reflects both upward and downward mobility over generations. While the press often describes intergenerational mobility in terms of upward mobility from the bottom of the income distribution, a society with a low intergenerational elasticity is also likely to experience a high degree of downward mobility from the top of the income distribution to the bottom. Third, there is no obvious *optimal* intergenerational elasticity; most of us would prefer a society where we could confer some degree of advantage to our children. Measures of intergenerational mobility, like measures of inequality, are most useful as descriptive statistics that can help inform policy discussions.

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Prognosis for today's children

The growing concern about intergenerational mobility today probably has little to do with the changes in mobility that may have occurred in 1940 or 1980. The public is likely much more concerned about how the recent economic downturn may shape mobility patterns going forward. At this point, it is probably too difficult to project intergenerational mobility with great confidence. Nevertheless, since the labor market success of the current generation of children will be shaped in large part by their human capital development, we may be able to infer something about future trends in mobility by examining current trends in the gaps in academic achievement by parental income. Unfortunately, the news is not so sanguine. In a very carefully done analysis, Reardon[12] presents striking evidence that the difference in test scores by family income has grown by 30% to 40% for children born in 2001 relative to those born in 1976. In fact, the gap in scores between families at the 90th percentile in the income distribution and those in the 10th percentile is now twice as large as the black–white achievement gap, which has gathered considerable attention. This suggests that at least some of the important policy measures to be considered should seek to address the growing disparities in educational success in order to address the growing concerns related to intergenerational mobility.

[1] See Jason DeParle, 2012, "Harder for Americans to rise from lower rungs," *New York Times*, January 4, New York ed., p. A1.

[2] See Josh Sanburn, 2012, "The loss of upward mobility in the U.S.," *TIME Moneyland*, January 5, available at http://moneyland.time.com/2012/01/05/the-loss-of-upward-mobility-in-the-u-s/.

[3] See Gary Solon, 2004, "A model of intergenerational mobility variation over time and place," in *Generational Income Mobility in*

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North America and Europe, Miles Corak (ed.), Cambridge, UK: Cambridge University Press, pp. 38–47.

[4] Other measures include the intergenerational correlation, which is similar to the intergenerational elasticity, and "transition probabilities"—the rate at which families move up or down the income distribution across generations. I do not discuss trends in transition probabilities because they cannot be studied over very long periods due to data limitations. Trends in mobility measured by transition probabilities will generally be reflected in trends in the intergenerational elasticity.

[5] See Claudia Goldin and Lawrence F. Katz, 1999, "The returns to skill in the United States across the twentieth century," National Bureau of Economic Research, working paper, No. 7126, May.

[6] See Daniel Aaronson and Bhashkar Mazumder, 2008, "Intergenerational economic mobility in the United States, 1940 to 2000," *Journal of Human Resources*, Vol. 43, No. 1, Winter, pp. 139–172. Relative to the standard intergenerational elasticity, the measure based on this approach will place greater weight on the influences of one's state of birth that are correlated with parent income. Aaronson and Mazumder show that any difference between the two estimators is likely to be too small to account for the trends.

[7] See David I. Levine and Bhashkar Mazumder, 2007, "The growing importance of family: Evidence from brothers' earnings," *Industrial Relations: A Journal of Economy and Society*, Vol. 46, No. 1, January, pp. 7–21.

[8] See Deirdre Bloome and Bruce Western, 2011, "Cohort change and racial differences in educational and income mobility," *Social Forces*, published online December 22, available by subscription at http://sf.oxfordjournals.org/content/early/2011/12/22/sf.sor002.abstract.

[9] See Anders Björklund, Markus Jäntti, and Matthew J. Lindquist, 2009, "Family background and income during the rise of the welfare state: Brother correlations in income for Swedish men born 1932–1968," *Journal of Public Economics*, Vol. 93, No. 5–6, June, pp. 671–680.

[10] Tom Hertz, 2007, "Trends in the intergenerational elasticity of family income in the United States," *Industrial Relations: A Journal of Economy and Society*, Vol. 46, No. 1, January, pp. 22–50; and Chul-In Lee and Gary Solon, 2009, "Trends in intergenerational income mobility," *Review of Economics and Statistics*, Vol. 91, No. 4, November, pp. 766–772.

[11] The earliest representative cohorts of children in the PSID were born in the early 1950s, and income during their peak earning years (e.g., 35–45) can only be measured beginning in the mid- to late 1980s. PSID studies have produced estimates for earlier periods by imposing additional assumptions concerning the age pattern in the intergenerational elasticity.

[12] Sean F. Reardon, 2011, "The widening academic achievement gap between the rich and the poor: New evidence and possible explanations," in *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances*, Greg J. Duncan and Richard J. Murnane (eds.), New York: Russell Sage Foundation, chapter 5.