Three Essays in Labor and Public Economics

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Chapter 1: "Effect of Income in Early Childhood: New Evidence Using Census Data and Tax Discontinuities" (Job Market Paper)

A growing literature in social science suggests a sustained correlation between family economic resources in childhood and later life outcomes. However, the causal impact of changes in family income on later outcomes for children is an open topic of research since exogenous sources of variation in income are rare.

In this paper, I estimate a relationship between family income in infancy on later-life outcomes using an underutilized source of variation in the U.S. tax code. The tax code offers sizable tax credits to families with children, and eligibility for those credits depends on a child's birthday. If the child is born before the New Year, that family is eligible for tax benefits related to the child for the previous tax year, but if the child is born after the New Year, the family will be eligible for the benefits starting with the next tax year. These eligibility rules create differences in after-tax income in the first year of a child's life, worth on average approximately $2,000 for families in tax year 2016. While not a numerically large increase in income, it is experienced by millions of families every year, and is especially large for low-income families.

I use regression discontinuity techniques with an omitted region, with the omitted region used to account for endogenous birth timing around the New Year, to calculate the effect of this discontinuity in after-tax family income on outcomes for children and young adults. I use data from the 2000 Census combined with the 2001-2016 American Community Surveys. After calculating the size of the omitted region using techniques from the bunching estimation literature, I find that a $1,000 discontinuity in after-tax income results in an estimated 0.94 percentage point increase in the probability of a student being grade-for-age by high school, a basic indicator of academic achievement and social maturity. This result is largely driven by changes for children from families that are more disadvantaged at a child's birth, including families with low education attainment and Black families. Moving forward to post-schooling outcomes, I find suggestive evidence that small differences in labor force attachment, earnings and education attainment persist for years after the adults leave high school, and are especially large for Black young adults and adults born in counties with lower education attainment. However, these effects appear to attenuate with age.

These results suggest a stronger relationship between income in early childhood and later life outcomes than has previously been estimated, and suggest that transfer programs that deliver resources to poorer households can deliver larger effects for children in school and early adulthood.

Chapter 2: "How Well Do Record Linkage Algorithms Perform? Lessons from US Historical Data" (With Martha Bailey, Morgan Henderson, Catherine Massey - forthcoming at *Journal of Economic Literature*)

Linking algorithms are a growing feature of many "big data" projects that require combining different data sources with limited identifying information across individuals. However, no work to date either analyzes how these algorithms perform in different data settings, or analyzes how differences in performance may translate into differences in inference.

In this paper, my coauthors and I review the literature in historical record linkage in the U.S. and examine the performance of widely-used automated record linking algorithms in two high-quality historical datasets and one synthetic ground truth. Focusing on algorithms in current practice, our findings highlight the important effects of linking methods on data quality. Specifically, we find that (1) no method (including hand-linking) consistently produces representative samples; (2) 15 to 37 percent of links chosen by prominent machine linking algorithms are identified as false links by human reviewers; and (3) these false links are systematically related to baseline sample characteristics, suggesting that machine algorithms may introduce

complicated forms of bias into analyses.

We then extend our analysis to look at the consequences of these differences in data quality on inference by computing intergenerational income elasticities. Many of the methods produce estimated elasticities that are statistically distinguishable from the estimated intergenerational elasticity with hand-linked data, suggesting that the linking algorithms themselves may bias inference. Furthermore, we find that prominent linking algorithms attenuate point estimates of the intergenerational income elasticity by up to 20 percent and common variations in algorithm choices result in greater attenuation. However, eliminating false matches renders elasticity estimates similar to each other, and statistically indistinguishable from the elasticity estimated with the hand-linked data.

These results recommend that current practice could be improved by placing more emphasis on reducing false links and less emphasis on increasing match rates.

Chapter 3: "Short and Long-term Effects of Exposure to Program Eligibility Cutoffs on Behavior: Evidence from the Medicaid Program"

Eligibility standards for various programs and benefits often create so-called "notches" where eligibility for the benefit is discontinuous in some measure of family economic resources. Basic economic theory would predict that exposure to such notches could alter economic behavior to ensure eligibility for the benefit. If such behavioral changes have impacts on determinants of future income, like a decline in human capital, then these changes in behavior have longer term consequences above and beyond the loss created by short-term alterations in behavior. While some papers have found impacts of exposure to these notches on short-term behavior and others have not, it is an open question whether exposure to notches has detectable long-term consequences.

In this paper, I add to this literature on short and long-run effects of responses to notches by analyzing responses to a unique feature of the Medicaid program. A series of expansions of eligibility to children in the 1990s made children eligible for Medicaid under substantially more generous family income rules if the children were born after September 30th, 1983. However, over time the discontinuity in eligibility rules was removed through expansions of another program that made all children under age 19 eligible for health insurance coverage under even less restrictive income requirements. Thus, families with children born before the date were exposed to a more restrictive notch for a longer time period than families with children born after the date, and by the year 2000 families with children born before the date were exposed to the same less restrictive notch. Thus, looking at the economic decisions of families in the early years across the birth date threshold allows a test of whether there were detectable short-term consequences when exposure to different notches varied by birthdate, and a comparison of the economic decisions of families in the later years offers a test of whether there were detectable long-term consequences after exposure to notches no longer varied by birthdate.

As the groups around the notches cannot be cleanly identified retroactively, I restrict attention to groups that may have had income and assets in proximity to the notch and may have made economic decisions in response to the notch. In particular, I look at (1) families with black children (2) families with mothers with low education attainment and (3) families with single mothers. These are groups that the previous literature looking at this notch identify as having some forms of short-term responses to the notch.

Using Survey of Income and Program Participation data and restricted access Census data, I find weak evidence of short-term responses, but I reject evidence of long-term responses with a precisely estimated 0. These results strongly suggest that behavior around notches had no detectable long-term consequences for human capital.