Income Inequality and Later Life Health and Mortality: Estimating Life-Course Treatment
Effects
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Abstract

In any discussion of income inequality one commonly finds assertions of negative consequences
that arise in societies that experience persistent inequality. The claims are not typically founded
on credible empirical evidence. For example, much attention has been devoted to the negative
correlation between income inequality and health in and across countries. This relationship has
been found across a broad set of health measures: infant mortality (Waldman, 1992; Wennemo,
1993), life expectancy (Wilkinson 1996, 2000), average age at death (Le Grand, 1987), mortality
(Kennedy et al., 1996; Lynch et al., 1998; Smith et al., 2002), and self-reported health (Kennedy
et al., 1998). Despite the consistent negative relationship identified in these studies, their
interpretation and robustness have been severely criticized. Deaton (2001) and Wagstaff and van
Doorlaer (2000) argue that this relationship should be estimated with data on individuals
followed over time. Judge, Mulligan, and Benzeval (1998) contend that existing cross country
comparisons fail to use comparable measures of income that account for taxes, government cash
and in-kind transfers, or household size. Wagstaff and van Doorslaer (2000) also argue that the
large majority of these studies fail to estimate models that can distinguish between the
hypotheses that have been advanced either because they lack data on individuals or because they
fail to use those data to provide tests of alternative hypotheses. Lillard and Burkhauser (2005)
show, across three countries, that the negative correlation between current income inequality and
individual health status becomes insignificant when one controls for individual income.

In this paper I investigate in one country, the United States, the claim that income inequality
leads to negative health consequences later in life. I broaden the set of outcomes from current
(poor) health status to include mortality and a broader set of health outcomes. In addition to the
consideration of a broader set of outcomes, I contribute by taking seriously the suggestions of
Deaton (2001) and Wagstaff and van Doorlaer (2000) to use longitudinal data to investigate the
underlying relationships. In particular, I draw data from the Panel Study of Income Dynamics
(PSID) on socio-economic outcomes experienced by panel members. For each individual, I am
able to map in the income inequality (measured at the state level) that he experienced in each
year of his whole life. The empirical analysis then investigates whether average income
inequality (measured alternatively by the Gini coefficient or the 80/20 income ratio) experienced
over any portion of a person's life predicts negative outcomes at some later age.

I am able to construct lifetime measures of income inequality because of two sets of data I
construct. First, I use the algorithm suggested in Lillard and Molloy (2006) to impute a state of
residence in every year of life for every respondent to the PSID. I also use CPS data on state
income inequality from 1979 to present and Bureau of Economic Analysis data on earnings and
employment by industry in each state to backcast income inequality for each US state from 1929
to 1979. By merging the imputed inequality measure to the imputed state of residence for each
PSID respondent, I am able to compute estimated measures of the inequality each person
experienced over his or her lifetime. I use these data (with controls for individual and family

background) to estimate the correlation between income inequality and later life socio-economic status. The analysis examines not only the correlations between outcomes and lifetime inequality but also with inequality experienced during theoretically critical periods of each person's life. For example, I examine whether the correlation between later life outcomes and income inequality differs if one measures income inequality experienced from birth to age 10 versus income inequality experienced at later ages (or over one's whole life). Finally, I examine the extent to which state income inequality proxies for other systematic differences across states that substantively might lead to later life differences in socio-economic outcomes. For example, I show how measured associations between income inequality and health vary when one controls for in infant mortality rates (within and across states over time).