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MEASUREMENT ERROR IN EARNINGS DATA IN THE HEALTH AND RETIREMENT STUDY

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The determinants of earnings play a central role in labor-market studies. As has been long understood in the labor and econometrics literatures, measurement error in respondent-reported earnings in survey data can cause standard econometric estimators to generate inefficient, as well as potentially biased and inconsistent, estimates of the determinants of earnings. Although the availability of administrative data sources on earnings has allowed researchers to document the extent of measurement error in important surveys such as the Current Population Survey (CPS), Panel Study of Income Dynamics (PSID), and the Survey of Income and Program Participation (SIPP), little is known about measurement error in earnings in many household surveys in the United States compared to the frequency with which they are used in applied research. In this paper, we provide new evidence on the extent of measurement error in respondent-reported earnings data by exploiting detailed W-2 records matched to older workers in the Health and Retirement Study (HRS) in 1991 and 2003. Our primary findings are:

- Mean measurement error in the 1991 HRS earnings data for men is somewhat larger than what has been found in other validation studies, but is still modest, averaging about 0.059 log points, approximately 5.9 percent, or \$1,500. For women in 1991, it is 0.067 log points, approximately 6.7 percent, or \$916.
- We find a negative correlation between the measurement error and the true value of earnings as measured by the W-2 records, which indicates the presence of non-classical measurement error.
- For men and women, the measurement error shows little correlation with a standard set of cross-sectional earnings determinants. The one exception is that the measurement error rises with reported education.
- The bias on the OLS parameter estimate of the impact of having a college degree or higher (relative to a high school drop-out) from using the respondent-reported rather than the W-2 earnings is positive and estimated to be 0.071 log points, or roughly a bias of 7 percent.

- Because the measurement error in reported earnings does not seem to differ significantly according to age or calendar year, studies of the impact of the retirement earnings test that exploit age and time variation in HRS respondent-reported earnings do not suffer from first-order bias from measurement error in earnings beyond that induced by non-classical measurement error.

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