Welfare Based Measures of Income Insecurity in Fixed Effects Models

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Paper Abstract: This paper develops a normative approach for measuring household-level income insecurity. We take panel data and employ fixed-effects models that allow for conditionally heteroskedastic error terms to generate predictive distributions for each individual's income in the coming year. From these predictive distributions we generate indices based upon expected utility (along the lines given by Ligon and Schechter (2003)), and alternative methods that employ reference-dependent functions that capture important features from Prospect Theory. Once established, the methods are applied to harmonized panel data from the US and Germany from 1993-2009. Our empirical analysis reveals much higher levels of household income risk in the US than in Germany, which can be mostly attributed to a higher level of unexplainable, time-invariant income volatility. Averaging across the sample reveals that US insecurity rose fairly steadily over time, while results for Germany are more ambiguous and depend upon the way that insecurity is defined. We examine potential drivers at the national level and find that changing macroeconomic conditions are unable to account for the observed trends in insecurity, while changing demographic factors (household sizes, racial composition and population age structure) appear to have some explanatory power for both countries. Increasing global competition and changes in economic policy are also identified as potential explanatory factors. Lastly the paper employs counterfactual estimation techniques to study variations in income insecurity *across* individuals. We isolate the impacts of an individual's labor market status and changes in household structure over time on the distribution of insecurity, and find that developments in the labor market since 2001 have disproportionately affected persons in lower income families. Conversely changes in household structure have also raised insecurity however the negative effects are fairly evenly distributed throughout the population.