General Equilibrium Models of Financial Systems: Theory and Measurement in Village Economies

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The transactions and production files are used to create measures of the use of currency and crop inventory as well as changes in real capital assets, livestock, and net indebtedness for three IRCRISAT villages in India's semiarid tropics. These asset data are used with income and consumption data to judge the goodness of fit of three models: complete markets or an equivalent set of institutions, exogenously incomplete markets, and endogenously incomplete mechanism design models with moral hazard. The risk sharing apparent in monthly/annual data is achieved by the buffer stocks of currency and crop inventory, and also by community institutions providing credit and insurance, but not at all by the purchase and sale of real capital assets and livestock. Still, by the more exact standards of full econometric tests and a priori plausibility none of the models seems to represent a satisfactory abstract picture. The complete markets model and permanent income / buffer stock model do move us in the right direction, consistent with the data, but are rejected overall. The private information model fits much of the consumption data reasonably well, but it suggests a community control over assets which, though receiving mild support in the data, deserves further consideration. Apparent in the data are salient facts which should be part of subsequent model construction. The relatively rich tend to be high users of crop inventory, and these and other such users of crop inventory are more likely to pass full insurance, permanent income, and private information model tests. The relatively poor tend to be high users of currency, but these and other such users of currency are more likely to fail private information if not other model tests. The villages display both barter and monetary exchange. While virtually all households have access to credit and insurance, the efficiency of the credit/insurance markets varies by land class, it is better for the larger land holders, and varies by village, it is worse for the more traditional village. These village economies also vary in their interaction with the larger national economy.