Using GPS in Household Surveys for Better Economics and Better Policy

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Abstract
Distance and location are important determinants of many choices that economists study. While these variables can sometimes be obtained from secondary data, economists typically rely on information that is self-reported by respondents in surveys. These self-reports are especially for the distance from households or community centers to various features such as roads, markets, schools, clinics and other public services. There is increasing evidence that self-reported distance is measured with error and that these errors are correlated with outcomes of interest. In contrast to self-reports, the Global Positioning System (GPS) can determine almost exact location (within 15 meters). The falling cost of GPS receivers (typically below US$100) makes it increasingly feasible for field surveys to use GPS as a better method of measuring location and distance. In this paper we review four ways that GPS can lead to better economics and better policy: (i) through constructing instrumental variables that can be used to understand the causal impact of policies, (ii) by helping to understand policy externalities and spillovers, (iii) through better understanding of the access to services, and (iv) by improving the collection of household survey data.

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