



Tracking in Panel Household Surveys

By Firman Witoelar

Sample attrition is an inherent challenge faced by longitudinal household surveys. Attrition in household surveys can occur as a result of migration, respondents' refusal to participate, as well as death. In countries where mobility is high, research findings suggest that longitudinal household surveys should seriously consider tracking respondents who move, particularly those who move outside the baseline locality.

Why Track the Movers?

Survey planners conducting follow-up interviews as part of a longitudinal household survey need to decide whether to follow households and individuals who have left their baseline location, and to what degree with respect to time, distance, and cost. People who move are unlikely to be a random subset of the baseline respondents, and they are likely to have certain characteristics that differ from those who remain at the baseline location. Following these movers and interviewing them minimizes the attrition rate and addresses potential selectivity biases in non-random attrition.

Earlier work on panel attrition provides some methods to assess the extent of attrition bias by examining selection on observed characteristics. When the observed baseline characteristics of those who move are different from those who remain, there are clearly strong incentives to track movers. However, new studies suggest that even if the observed baseline traits are not different, researchers should still be concerned about analyzing a panel of households restricted to non-movers. A recent study by Thomas et al. (2011) on attrition in the Indonesia Family Life

Survey shows that failure to follow movers in longitudinal surveys results in higher rates of attrition, including attrition selected on both observed and unobserved characteristics, which complicates inferences. Clearly, inferences based on these kinds of panel data need a theory (and preferably, evidence) of where the missing respondents went, and why.

Failure to follow movers entails scientific costs in terms of higher attrition rates stemming from both observed and unobserved characteristics. The scientific costs of not following the movers must be weighed against the financial costs of tracking. These financial costs will vary according to survey design and setting, but can be minimized with careful planning and the use of innovative technology.

Defining Targets and Boundaries

As respondents leave their baseline household, the remaining sample of non-movers becomes less representative of the baseline, particularly as migration is unlikely to be random. Survey planners must define the respondents that are to be tracked (tracking targets), as well as those that are to be interviewed (interviewer targets). Depending on the aim of the study, the survey might track all individuals such that the next round of the survey is representative of the baseline of individuals. Alternatively, the survey could follow only individuals with certain characteristics. Survey planners may not wish to track everyone, and they may also choose to interview people not in the baseline (such as returned migrants and other new household members).

Once the survey planners have determined the tracking targets, a set of tracking rules simple enough for interviewers to follow during fieldwork should be established. One of the rules should involve setting the boundaries on the

distance to which individuals will be tracked. Possible boundaries include administrative borders or a simple distance limit.

Organizing Tracking Operations

Difficulties with tracking often result from problems concerning the collection or utilization of information on respondents' new locations. After tracking targets have been defined, field experience suggests that the implementation of successful tracking requires a tracking manager or management team whose sole responsibility is to manage the tracking aspects of the survey. This includes managing the tracking information system, evaluating the quality of tracking information from the field, as well as resolving conflicting information about respondent location. In a resource-constrained environment, the tracking manager must also organize and prioritize the tracking cases by evaluating the trade-offs between cases before the tracking cases are assigned to the teams in the field.

Tracking Forms and Protocol

To implement tracking in the field, interviewers must follow the established tracking protocol. The protocol should identify the individuals to be tracked, describe how to collect information about the tracking targets using a well-designed tracking form, and establish the method for relaying the information back to the survey headquarters. The type and the quality of information collected will be crucial in finding respondents at their new location. Information collected may include new address, new work address, phone numbers, locations that the mover used to frequent, and the names and addresses of people that the mover knows at the destination. The interviewers must also be equipped with information about respondents gathered from the baseline survey or the previous round, such as old workplaces, old employers, and schools that the mover attended. What this implies is that *even at the baseline survey*, survey planners must plan for the collection of information that may be useful to locate respondents if they move between survey rounds.

The survey protocol also governs the process that interviewers follow once the tracking information has been collected. In some surveys, interviewers may be required to either track the respondents within the proximity of their survey area, or transfer the tracking cases to other interviewers who are closer to the destination of the movers. In other surveys, special tracking

teams may be assigned to find respondents (or a sub-sample of them) who have moved, after the end of the main survey effort. Some surveys do a combination of both.

Flexibility for Innovation

In addition to careful consideration and planning, a successful tracking operation also requires flexibility to new innovative approaches. When available, official records such as birth, marriage or death records, either in the baseline location or in the destination, can be useful in finding individuals' whereabouts. Some surveys have used photographs of respondents to increase re-contact rate in future survey rounds. When applicable, GIS data can be used to track back households that are hard to locate. The use of computer-assisted personal interviewing (CAPI), which offers potential advantages over pencil-and-paper interviewing, can also be extended to tracking. CAPI facilitates the use of photographs and geo-codes, and can reduce the time needed to collect tracking information and send it to the survey headquarters. As timing and coordination of different teams is critical in organizing tracking activities, CAPI has the potential to make a significant impact on the success of tracking.

Ethical Concerns

Finally, it is essential to ensure that the ethical implications of tracking activities are carefully considered. Since numerous types of information necessary to find the respondents are collected, care must be taken to protect the privacy of the respondents. Some form of informed consent should also be obtained. One option is to obtain consent only for the baseline survey, while explaining the nature of longitudinal surveys and informing the respondents that they will be visited and asked for consent again in the future.

This brief is based on: Witoelar, Firman (2010). Tracking in longitudinal household surveys. *LSMS-ISA Working Paper*, Washington D.C.: The World Bank. The full paper is available for download at www.worldbank.org/lsms-isa.

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