

**ESTIMATING IRREGULAR MIGRATION IN A SURVEY:
THE “TWO-CARD FOLLOW-UP” METHOD**

United States Government Accountability Office¹

Concerns about the increase in irregular migration and the exploitation and abuse of migrants in an irregular situation, articulated in the summary of the High-level Dialogue on International Migration and

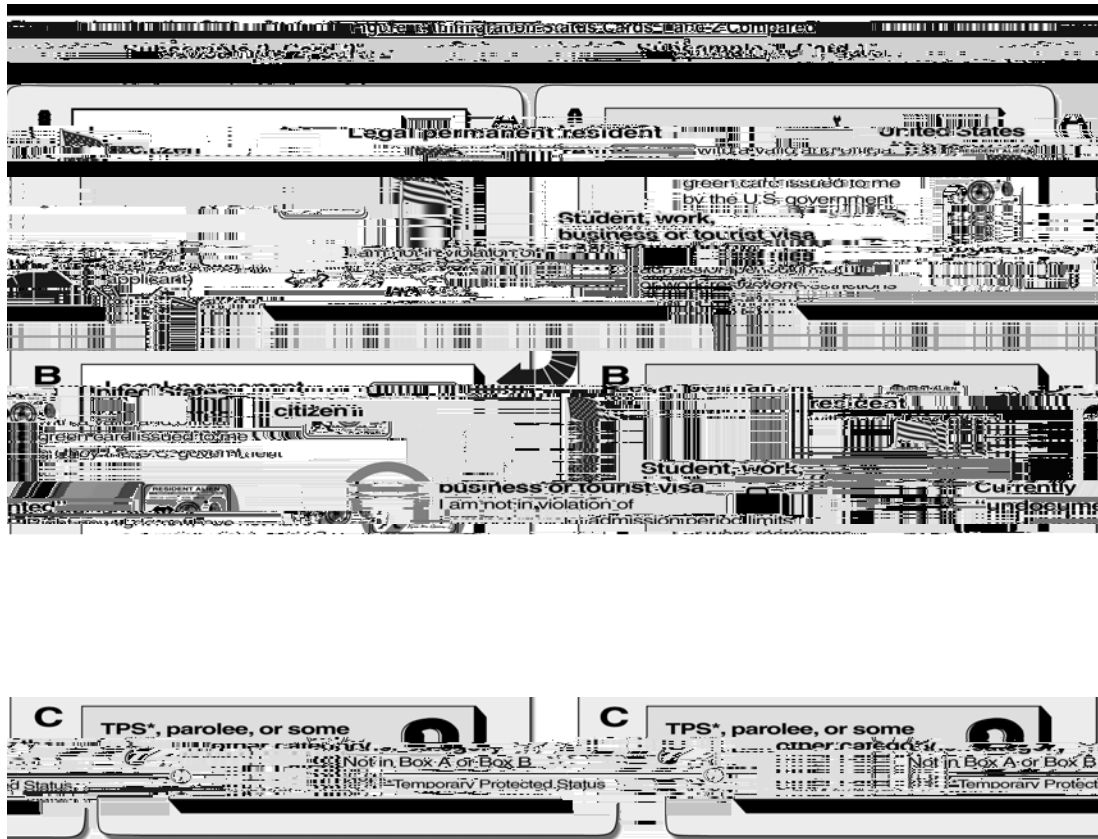
The following points will be discussed in detail:

1. The categories must be mutually exclusive and exhaustive. Mutually exclusive and exhaustive means every respondent will be able to pick a box that applies to him or her, and that he or she can only be counted in one category.
2. No respondent is ever asked whether he, she, or anyone else is in a specific sensitive category (for example, undocumented immigrant or “irregular migrant”); in this example, currently “undocumented”. Unlike questions that ask respondents to choose among specific answer categories, the “Two-Card Follow-Up” method combines answer categories in sets or boxes as shown in figure 1. Box B includes the sensitive answer category—currently “undocumented”—along with other categories that are non-sensitive. (The term currently “undocumented” refers to the same group that is sometimes called irregular).

Each respondent is asked to pick the Box—Box A, Box B, or Box C—that contains the specific answer category that applies to him or her. Respondents are told, in effect: If the specific category that applies is in Box B, there is no need to enquire further because at the moment, the focus will be on Box A categories. By using the boxes, the interviewer avoids zeroing in on the sensitive answer. The specific categories shown in the boxes in figure 1 are grouped so that:

One would expect many respondents who are in the United States of America legally, as well as those who are undocumented, to choose Box B, and

There is virtually no possibility of anyone deducing which specific category within Box B applies to any individual respondent.



^a An essential feature of the “Two-Card Follow-Up” method is that follow-up questions must be asked of respondents who choose Box A or Box C, to ensure they have chosen the correct Box.

3. Follow-up questions are asked of respondents. A respondent picking a box that does not include the sensitive answer—for example, a respondent picking Box A or Box C in figure 1—is asked follow-up questions that identify the specific answer category that applies to him or her. Thus, direct information is obtained on all legal immigration statuses. Importantly, these follow-up questions provide a check on the validity of the respondent’s choice of Box A and Box C. As a result, some respondents’ answers may change; for example, they may realize they belong in Box B. The data on some of the legal categories can be compared to administrative data to check whether responses are reasonable. Additionally, these data provide estimates of legal statuses, which are useful when, for example, policymakers review legislation on the numbers of foreign-born persons who may be admitted under specific legal status programs.

4. Two pieces of information are provided separately by two sub-samples of respondents (completely different people—no one is shown both immigration status cards). Respondents are divided into two sub-samples, based on randomization procedures or rotation (alternation) procedures conducted outside the interview process. (For example, a rotation procedure might specify that within an interviewing area, every other household will be designated as sub-sample 1 or sub-sample 2). This “split-sample” procedure has been used routinely for many surveys. As applied to the “Two-Card Follow-Up” method, the two sub-samples are shown alternative flash cards. Immigration Status Card 1, described above, represents one way to group immigration statuses in three boxes. A second immigration status card (Immigration Status Card 2, shown in figure 1) groups the same statuses differently. The alternative immigration status cards can be thought of as “mirror images” in that:

The two non-sensitive immigration statuses in Box A of Card 1 appear in Box B of Card 2; and

The two non-sensitive immigration statuses in Box B of Card 1 appear in Box A of Card 2. However, the undocumented status always appears in Box B.

Interviewers ask survey respondents in sub-sample 1 about immigration status with respect to Card 1. They ask survey respondents in sub-sample 2 (completely different persons) about immigration status with respect to Card 2. Each respondent is shown one and only one immigration status flash card.

Because the two sub-samples of respondents are drawn randomly or by rotation, each sub-sample represents the foreign-born population and, if sufficiently large, can provide reasonably precise estimates of the percentages of the foreign-born population in the boxes on one of the alternative cards.

Using two slightly different pieces of information provided by the two different sub-samples allows indirect estimation of the size of the currently “undocumented” population—by simple subtraction.

The only difference between Box B of Card 1 and Box A of Card 2 is the inclusion of the currently “undocumented” category in Box B of Card 1, as shown in figure 1. Thus, the percentage of the foreign-born population who are currently “undocumented” can be estimated as follows:

Start with the percentage of sub-sample 1 respondents who report that they are in Box B of Card 1 (hypothetical figure: 62 per cent of sub-sample 1).

Subtract from this the percentage of sub-sample 2 who say they are in Box A on Card 1 (hypothetical figure: 33 per cent of sub-sample 2).

Observe the difference (29 per cent, based on the hypothetical figures); this represents an estimate of the percentage of the foreign-born population who are currently “undocumented”.

Alternatively, a “mirror-image” estimate could be calculated, using Box B of Card 2 and Box A of Card 1 (the result of the subtraction would be the same, either way—assuming that the same percentage of sub-sample 1 and sub-sample 2 chose Box C).

5. Taking the two pieces of information together—like two pieces of a puzzle—allows indirect estimation of the undocumented population, but no individual respondent (and no data on an individual respondent) is ever categorized as undocumented. In order to estimate the size of the currently “undocumented” population, a “Two-Card Follow-Up” method estimate of the percentage of the foreign-born who are undocumented would be combined with a census figure. For example, the 2000 census of the United States counted 31 million foreign-born, and the United States Bureau of the Census issued an updated estimate of 35.7 million foreign-born for 2005. The procedure would be simply to multiply the per cent undocumented (based on the “Two-Card Follow-Up” method data and the subtraction procedure) by a census count or an updated estimate for the year in question. These procedures ensure that no respondents—and no data on any specific respondent—are ever separated out or categorized as currently “undocumented”, not even during the analytic process of making indirect, group-level estimates.

The United States Bureau of the Census contracted with the National Opinion Research Centre, University of Chicago, to field test one Immigration Status Card in the 2004 General Social Survey (GSS), among the 237 foreign-born respondents in the GSS sample. The Census Bureau “found that nine out of ten foreign-born respondents to the migration status question gave format-appropriate answers (Box A, B, or C), eight out of ten appear to understand the [question] format . . . and nine out of ten did not raise an objection, remain silent, or hesitate to answer when asked the immigration status question” (GAO, 2006, p. 80).

The “Two-Card Follow-Up” method of the GAO has potential application for estimating irregular migration in many countries, and may be tailored to local circumstances and interests, such as tracking remittances. For example, the method could also be extended to yield separate estimates of subcategories of irregular migrants, such as: (1) those who entered surreptitiously, (2) overstayers, and (3) those with pending applications. In order to estimate the number of overstayers would require a separate question on whether the respondent had entered the country on a temporary visa (Droitcour, Larson and Scheuren, 2001). In order to estimate irregular migrants with pending applications would require a separate question concerning pending applications for any form of legal status (including, for example, applications for citizenship as well as for a legal permanent resident or landed immigrant status, and other legal statuses (GAO, 2006, p. 67)). While human trafficking is of obvious concern, it does not represent the majority of irregular migration, which may be mostly labour-market based. Nevertheless, the method has been cited as being of interest in “the sensitive case (irregular migrants or trafficked victims) . . . by including it in other categories within the same Card”, and that the method “also produces an estimate of the variance of the estimate using standard definitions and adjusting it by using the ‘technique effect’” (Kutnick, Belser, and Danailova-Trainor, 2007, pp. 21-22).

NOTES

The United States Government Accountability Office (GAO) regularly audits and evaluates immigrant and immigration policies of the United States, as well as other policies and programs across the Federal Government. Previously called the United States General Accounting Office, the Congress changed GAO’s name in Public Law 108-271, which President George W. Bush signed into law on July 7, 2004. All the GAO reports listed above may be accessed on the Internet at www.gao.gov.

¹ The views and opinions expressed in this document are those of the author and not necessarily those of the United States Government Accountability Office.

REFERENCES

- Center for Migration Studies (1984). Introduction. *International Migration Review*, vol. 18, No. 3, pp. 406-408.
- Droitcour, Judith A., Eric M. Larson and Fritz Scheuren (2001). The Three-Card Method: Estimating Sensitive Survey Items—With Permanent Anonymity of Response. In *Proceedings of the Annual Meeting of the American Statistical Association, August 5-8, 2001*, Atlanta, GA, American Statistical Association, ed. Alexandria, VA: American Statistical Association, pp. 1-6.
- Droitcour, Judith A. and Eric M. Larson (2002). An Innovative Technique for Asking Sensitive Questions: The Three-Card Method. *Bulletin de Méthodologie Sociologique*, No. 75, pp. 5-23.
- Kutnick, Bruce, Patrick Belser, and Gergana Danailova-Trainor (2007). Methodologies for global and national estimation of human trafficking victims: current and future approaches. *ILO Working Paper*, No. 29. Geneva: International Labour Office.
- United States General Accounting Office (1998). *Immigration Statistics: Information Gaps, Quality Issues Limit Utility of Federal Data to Policymakers*. GGD-98-164. Washington, DC: United States General Accounting Office, (July).
- United States Government Accountability Office (1999). *Survey Methodology: An Innovative Technique for Estimating Sensitive Survey Items*. GGD-00-30. Washington, DC: United States General Accounting Office, (November).
- _____ (2006). *Estimating the Undocumented Population: A “Grouped Answers” Approach to Surveying Foreign-Born Respondents*. GAO-06-775. Washington, DC: United States Government Accountability Office, (September).