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CENSUS REFORM

Questionnaire Test Shows Simplification Holds Promise

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QUESTIONNAIRE TEST SHOWS SIMPLIFICATION HOLDS PROMISE

SUMMARY OF STATEMENT BY
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The content and design of census questionnaires influence the mail response rate, the quality of the data collected, the burden on the respondents, data capture and processing requirements and operations, and the cost of taking a census. The results from the Bureau's March through May 1992 test of simplified census questionnaires confirm that exploring changes in census short-form questionnaire content, design, and implementation strategy should be at the forefront of the Bureau's efforts to improve the census response rate.

The test showed that changes in the short-form questionnaire can increase the level of public cooperation with the census. For example, the test results indicate that generally asking fewer questions than on the 1990 short form can improve completion rates overall. The test form that asked just name, date of birth, gender, race, and Hispanic origin had a return rate of 71.4 percent compared to 66.8 percent for a similarly formatted form that asked the questions included on the 1990 census short form. However, the test also confirmed that the Bureau needs to redouble its efforts to gain cooperation from minorities in urban areas.

In addition to reducing the number of questions and redesigning the questionnaire, the Bureau also employed a series of multiple contacts with households in an attempt to increase response. The test found that mailing a second questionnaire to nonresponding households improved return rates. For all five questionnaires in the test, the return rates increased by an average of about 11.6 percent after the mailing of a replacement form. The Bureau is planning research into the effectiveness of the various mailings it made to households in improving public cooperation.

The test results have critical implications for other issues associated with census planning, such as comparing the operational, technical, and budget impacts of alternative census designs and determining the appropriate content and level of aggregation for census data collection. For example, questionnaire length affects the number of nonresponse cases requiring follow-up by census enumerators; the time required for each follow-up interview; the volume of materials, printing, and postage used; the amount of training time needed for enumerators; the time needed to process the completed forms; and the extent of tabulation and publication activities.

Mr. Chairman, Mr. Ridge, and Members of the Subcommittee:

I am pleased to be here today to discuss the preliminary results and implications of the Census Bureau's March through May 1992 test of simplified census questionnaires. As you know, Mr. Chairman, we have long believed that the Bureau could promote better public cooperation by reducing the time and effort needed for respondents to understand, complete, and return their census forms. We have recommended that the Bureau test revising the design and content of the census questionnaire and using survey aids, such as reminder cards and second mailings, to improve the response rate, and reduce costly follow-up efforts. We monitored the Bureau's test as part of the ongoing review that this Subcommittee requested of the Bureau's research and development activities in preparation for the 2000 census.

We believe that the Bureau's test was an appropriate place to begin research on improving the level of public cooperation. The content and design of census questionnaires influence the mail response rate, the quality of the data collected, the burden on the respondents, data and processing requirements, and the cost of taking a census. Although the Bureau evaluations of the test have not been completed, the test results confirm that exploring changes in census short-form questionnaire content, design, and implementation strategy should be at the forefront of the Bureau's efforts to improve public cooperation.

In our recent report on the opportunities for fundamental census reform, we showed that a high level of public cooperation is key to obtaining accurate data at a reasonable cost.[1] Unfortunately, the 1990 mail return rate--the percentage of occupied housing units that returned a questionnaire--continued a downward trend in the public's willingness to respond to the census. The mail return rate was 74 percent in 1990, in contrast to the 83 percent who responded in 1980 and the 87 percent in 1970. Moreover, research by Bureau staff has suggested that the environment for census taking may get even worse over the next decade due to such factors as illiteracy, non-English speaking immigrants, and concerns about privacy.

A reduced level of public cooperation means that more enumerators are needed to collect census information, which increases census costs and reduces data quality. In 1990, each percentage point nonresponse was equivalent to about 1 million more housing units that required follow-up. A Bureau cost model estimates that a one point reduction in the mail response rate cost the census an additional $17 million and required hiring 7,000 more staff. Bureau evaluations, including the 1990 Post Enumeration Survey, have shown that the data collected through mail returns have fewer errors than the data collected by enumerators.

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[1]Decennial Census: 1990 Results Show Need for Fundamental Reform (GAO/GGD-92-94, June 9, 1992). A list of other GAO products related to census questionnaire design is attached to this statement.

CHANGES IN THE SHORT FORM CONTENT, DESIGN, AND METHOD OF CONTACT CAN YIELD IMPROVEMENTS IN PUBLIC COOPERATION

The Bureau designed its simplified questionnaire test to determine the effects on return rates from asking fewer questions, using respondent-friendly census forms, requesting Social Security numbers, and implementing a strategy that relied upon multiple contacts by mail. The Bureau's test compared the return rates of five questionnaires mailed to a sample of households.[2] The test used the 1990 short form as a control and included four experimental questionnaires:

- a user-friendly booklet form that asked essentially the same questions as the 1990 short form but in a format that was designed to be easier to understand and complete;

-- a micro form that was the user-friendly form without the seven housing questions asked in 1990;

-- a micro form that requested Social Security numbers; and

[2]Unlike the census, the Bureau's test did not include a field check to see if a housing unit that did not mail back a questionnaire was vacant or nonexistent. For the test, the Bureau accepted the Postal Service's determination that a unit was vacant or a questionnaire was otherwise undeliverable.

-- a postcard roster form that requested only the name and birth dates of each resident.

Half of the 17,000 households in the test were randomly selected from households in 1990 district office areas that had high proportions of Blacks and/or Hispanics. Such areas generally had low return rates and these areas contained about 11 percent of the population in 1990. The other half of the households tested were randomly selected from the rest of the country.

All households in the test were sent a prenotice letter several days before the questionnaire was mailed, a questionnaire, and a thank you/reminder card. A replacement questionnaire was sent to those households that did not return their form within a certain period of time.

The Bureau obtained higher return rates for all of the experimental forms compared to the 1990 short form, as shown in table 1. Overall, the differences between each of the experimental forms and the 1990 short form are statistically significant.[3] The experimental forms outperformed the 1990 short form overall and in both low response areas and all other areas.

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[3]Statistical significance was measured in the test by the Bureau at the .10 level.

Table 1: Comparison of Test Results by Form

	Return rate percentage		
Short-form questionnaire	Low response areas	Other response areas	Over-all
A. 1990 short-form questionnaire (control)	45.2	65.8	63.4
B. User-friendly booklet (same content as 1990 short form)	52.7	68.7	66.8
C. Micro (user-friendly 1990 short form without housing questions)	55.1	73.5	71.4
D. Micro plus request for Social Security number	48.9	70.5	68.0
E. Postcard roster requesting only name and birth date	54.6	73.1	70.9

Asking fewer questions can increase public cooperation

To find out whether asking fewer questions improves response, the Bureau compared the results from the micro, the micro requesting Social Security number, and postcard roster forms to the user friendly 1990 short form. The Bureau found that asking fewer questions than on the 1990 short form generally improves response rates. The overall return rates for both the micro forms and the postcard roster form were higher than those achieved by the user-friendly booklet form. However, in low response areas, the differences in return rates among the micro forms, the postcard roster form, and booklet form were not statistically significant. The test results also show that reducing the content beyond the questions asked on the micro forms to those asked on the postcard

roster form did not yield additional improvements in the return rates.

Making the form user friendly can increase public cooperation

The user-friendly booklet's overall return rate was higher than that of the 1990 short form. In contrast to changes in the return rate attributable to asking fewer questions, the improvements due to a user-friendly booklet form were statistically significant in the low response areas but not in all other areas. The amount of improvement in the return rates in these areas for the booklet as opposed to the 1990 short form was 7.5 percent.

Implementation strategy can increase public cooperation

In addition to reducing the number of questions and redesigning the questionnaire, the Bureau also employed multiple mail contacts with households in an attempt to increase response. The simplified questionnaire test found that mailing a second questionnaire to nonresponding households had a positive effect on return rates. For all five forms, the return rates increased by an average of approximately 11.6 percent after a replacement form was mailed. The results of the second mailing are consistent with those obtained in the Bureau's 1986 National

Content Test, which was done as part of planning for the 1990 census. The use of a prenotice mailing may have improved the simplified questionnaire test's return rates. The Bureau's 1986 test, when the prenotice was not used, had a 49.2 percent return rate. The simplified questionnaire test's 1990 short form return rate was 63.4 percent, or 14.2 percentage points higher than in the 1986 National Content Test.

The Bureau believes the results from its strategy of using multiple mail contacts are promising enough to do additional research into the effectiveness of the prenotice letter and the reminder/thank you card. This fall, with OMB approval, the Bureau plans to test the relative contributions and cost effectiveness of a prenotice letter, reminder card, and a stamped return envelope on overall mail completion rates and the speed of response. The results of this test are scheduled to be available by November 1992 and may be the basis for additional tests if appropriate.

Low response areas continue to pose special problems

The test results highlighted the problems the Bureau faces in securing a level of public cooperation that is consistent across diverse population groups and geographic areas. The return rate for low response areas, which were mostly urban and, by definition, contained large minority populations, was an average

of 19 percentage points lower on all five forms than the return rate of the rest of the population. The largest difference was observed with the questionnaire that requested the Social Security number.

The Bureau did telephone debriefings of a sample of the test households to solicit reactions from both respondents and nonrespondents to the forms and implementation strategy used during the test. The Bureau expects that its analysis of the debriefings will be completed by August 1992. The results may prove particularly helpful in addressing the problem of the differential response rate.

TEST RESULTS RAISE BROAD OPERATIONAL AND POLICY QUESTIONS

The Bureau's simplified questionnaire test represents only one step in what must be a wide-ranging effort to develop and test alternative questionnaire designs and methods for the 2000 census. Therefore, in addition to the test's immediate implications in setting the agenda for follow-up research and testing, the test results have critical implications for other issues associated with census planning, such as comparing the operational, technical, and budget impacts of alternative census designs and determining the appropriate content and level of aggregation for census data collection.

Cost-effectiveness of alternative questionnaire designs and implementation treatments is one area requiring careful analysis. While cost cannot be the sole criterion for making a decision among census-taking models, the potential savings from questionnaire improvements are so substantial that the issue should not be ignored. In our report on the opportunities for census reform, we pointed out that a radically streamlined questionnaire could have saved an estimated $480 million in 1990.[4]

A streamlined form can result in substantial savings because reducing the length of the questionnaire influences a range of census operations. For example, questionnaire length affects the number of nonresponse cases requiring follow-up by census enumerators; the time required for each follow-up interview; the volume of materials, printing, and postage used; the amount of training time needed for enumerators; the time needed to process the completed forms; and the extent of tabulation and publication activities.

Alternative questionnaire designs and implementation strategies also have important consequences for the Bureau's procedural, technological, and operational requirements. For example, as I have noted, the test results suggest that the use of follow-up questionnaires can substantially reduce the nonresponse follow-up

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[4]GAO/GGD-92-94, June 9, 1992.

workload and associated costs. However, using follow-up questionnaires on the scale required by a full decennial census would impose serious operational challenges on the Bureau. The Bureau would need to mail follow-up questionnaires to perhaps 30 or 40 million nonresponding households in a short period of time. If the Bureau expects to pursue this promising avenue for increasing response, it will need to test operational procedures and technology in its 1995 test census of alternative census designs.

The improved response rates associated with the simplified forms reinforce the need for an open, broad discussion on the content and level of aggregation of data to be collected by the census. The Bureau's census redesign effort is assessing what data need to be collected by the decennial census to meet constitutional requirements and other public and private data needs. This effort is important because the Bureau must determine the appropriate questionnaire content no matter which specific census design will ultimately be implemented for 2000.

One area needing particular attention is the potential loss of geographic detail for some data. Simplification of the short-form questionnaire may mean that block level data would not be collected for certain questions. For example, neither of the micro forms include the housing questions asked on the 1990

census short form. In 1990, these questions also were included on the census long form which was sent to about one of every six housing units. Thus, if the Bureau uses a similar long form in the year 2000, data removed from the short form would still be available for census tracts (which in 1990 contained between 2,500 and 8,000 persons). Therefore, the critical trade-off may concern the costs and needs for data at the block level as opposed to data at a higher geographic level.

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In summary, Mr. Chairman, improving the level of public cooperation is crucial to controlling census costs and ensuring high-quality data. The Bureau's test showed that making the census questionnaire more user friendly, adopting a strategy of multiple mail contacts, and reducing the number of questions improved the level of public cooperation. These test results have important implications for a range of census operational issues. The results also raise difficult policy questions on the trade-offs that must be made between the cost of the census and the content and geographic detail of the data collected.

This concludes by prepared statement. My colleagues and I will be pleased to answer any questions.

RELATED GAO PRODUCTS

Decennial Census: Opportunities for Fundamental Reform (GAO/T-GGD-92-51, June 10, 1992).

Decennial Census: 1990 Results Show Need for Fundamental Reform (GAO/GGD-92-94, June 9, 1992).

Decennial Census: Local Government Uses of Housing Data (GAO/GGD-87-56BR. Apr. 8, 1987).

Decennial Census: Issues Related to Questionnaire Development (GAO/GGD-86-74BR, May 5, 1986).

A $4 Billion Census in 1990? Timely Decisions on Alternatives to 1980 Procedures Can Save Millions (GAO/GGD-82-13, Feb. 22, 1982).