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MEMORANDUM FOR The Distribution List

From: Arnold Jackson *[signed]*
 Acting Chief, Decennial Management Division

Subject: 2010 Census Bilingual Questionnaire Assessment Report

Attached is the 2010 Census Bilingual Questionnaire Assessment Report. The Quality Process for the 2010 Census Test Evaluations, Experiments, and Assessments was applied to the methodology development and review process. The report is sound and appropriate for completeness and accuracy.

If you have questions about this study plan, please contact Cynthia Rothhaas at (301) 763-1896.

Attachment

2010 Census: Bilingual Questionnaire Assessment Report

U.S. Census Bureau standards and quality process procedures were applied throughout the creation of this report.

Final Report

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EXECUTIVE SUMMARY

The 2010 Census was the first decennial census to include a bilingual English/Spanish questionnaire. The goal behind the 2010 bilingual stratification was to reach the maximum number of housing units that may require Spanish language assistance to complete their 2010 Census questionnaire. We used American Community Survey data from 2005 through 2007 to identify the specific areas that received a 2010 Census bilingual questionnaire (“data-identified”). The criteria used for the stratification was that at least 20 percent of the occupied housing units in a tract were in need of “Spanish Assistance”, i.e., households in which at least one adult (age 15 or older) in the household speaks Spanish and does not speak English “very well.” In addition, eight of the twelve Census Regional Offices provided input (“local knowledge”) and some additional tracts were identified to receive bilingual questionnaires. (Due to operational and processing requirements, and the need to accommodate field assignment area delineations, the selected tracts were then linked to the appropriate collection blocks.) All housing units in these blocks were selected to receive a bilingual English/Spanish initial questionnaire. This assessment focuses primarily on the results for the initial questionnaire returns in the bilingual delivery area, since the replacement questionnaire for these areas was English-only.

The 2010 Census bilingual questionnaire is a booklet containing questions and response options in both English and Spanish in a side-by-side, “swim-lane” format. To make use of the two additional pages that result from the design of the booklet, the bilingual questionnaire collected full information for Persons 1 through 6 as well as Persons 7 and 8, with an extended roster for Persons 9 through 12. This is a different format from the English-only questionnaire, which is a tri-fold sheet and collected full information for Persons 1 through 6 and used an extended roster for Persons 7 through 12.

The Census Bureau tested a bilingual questionnaire in the 2005 National Census Test. Results from the 2005 National Census Test showed that the bilingual questionnaire significantly increased the self-response rate nationally and, more specifically, in areas where there was a high concentration of non-White or Hispanic populations.

Research questions and key results for the 2010 Census related to the bilingual questionnaire are described below. For remaining results, please see Section 4 of the report.

1. *How many blocks were selected to receive the bilingual questionnaire? By bilingual identification type (Data-Identified or Local Knowledge)? How many housing units were sent a bilingual questionnaire? By Mailout/Mailback areas and by Update/Leave areas?*

A total of 317,866 Mailout/Mailback and update/leave blocks were identified to receive the bilingual questionnaire. Approximately 12,144,431 housing units were in those blocks.

2. *What is the relative response rate differential between the areas identified to receive the bilingual questionnaire in the 2010 Census and the areas that received the English-only questionnaire in the 2010 Census?*

Results from the 2005 National Census Test and the 2007 Study showed that the bilingual questionnaire significantly increased the self-response rate in areas with a high concentration of non-white or Hispanic populations.

Since the 2010 Census did not incorporate an experimental design into the bilingual stratification we can not definitively state what impact the bilingual questionnaire had on response rates. Any comparison between response in the bilingual delivery areas and the English-only areas must consider the demographic population differences and other confounding factors. However, in an attempt to address this question for the 2010 Census, a preliminary analysis of the census tract-level participation rates compared to estimated “Spanish Assistance” percentages was examined. This analysis focused on returns by April 1, 2010 in order to control for the potential impact of the English-only replacement questionnaires. Highlights from this examination showed:

- The highest participation rates were from tracts with the lowest “Spanish Assistance” percentages.
- The participation rates dropped sharply as the “Spanish Assistance” percentage increased and then began to level off for tracts having 10 percent or greater “Spanish Assistance”.
- Further results suggest that the bilingual questionnaire provided substantial benefit to the areas that were targeted, though further analysis to control for a range of factors is highly recommended.

Additional analysis looked at the difference between the 2010 Census and Census 2000 participation rates. Results showed:

- The average census tract participation rate gap narrowed between Census 2000 and the 2010 Census for those census tracts in the bilingual mailing areas (i.e., those tracts with 20 percent or higher “Spanish Assistance”), compared to those in the 10 to 20 percent “Spanish Assistance” areas.
- The model confirms the conclusion in the previous analysis, that the bilingual mailing areas performed significantly better than if they had received English-only questionnaires.

3. *What is the participation rate and Undeliverable As Addressed rate for the addresses to which the bilingual questionnaire was distributed? By Mailout/Mailback areas and by Update/Leave areas? By bilingual identification type?*

In areas identified to receive the bilingual questionnaire, 58.6 percent of households who were mailed a bilingual questionnaire responded by mailing back their initial bilingual questionnaire. The rate of bilingual returns increases to 66.7 percent when excluding non-occupied housing units.

An additional 8.9 percent of households in bilingual blocks had their initial bilingual questionnaire returned as Undeliverable As Addressed. Of the 8.9 percent identified as Undeliverable As Addressed, 28.8 percent were determined to be occupied housing units in later Census operations.

4. *What percentage of the bilingual returns used only the Spanish column to respond? What percentage filled out the English column only? What percentage of the bilingual returns used both the English and Spanish columns to respond? By Hispanic origin of Person 1? By bilingual identification type?*

About 75.0 percent of bilingual returns have all information entered on the English-only columns. Only 3.4 percent of respondents used both lanes (i.e., entered responses on both English and Spanish lanes).

For respondents listed as Person 1 on the bilingual questionnaires, almost all (over 99 percent) who did not identify themselves as Hispanic responded using the English-only column. Of those who identified as Hispanic, slightly over half used the English-only lane, 39.8 percent used the Spanish-only lane, and six percent used a combination of English and Spanish lanes. Thus, the “swim-lane” design seemed to benefit Spanish speaking people who might have needed language assistance.

5. *What percentage of the bilingual questionnaires with reported household sizes greater than six captured full information for Persons 7 and/or 8 (if applicable)? What increase to the number of complete person-level returns does the design of the bilingual questionnaire provide by allotting full data columns for Persons 7 and 8? “Complete person-level data items” refer to relationship, sex, age/date of birth, Hispanic origin, and race.*

This question addresses the additional full information collected for Persons 7 and 8 due to the design of the bilingual questionnaire. Of the occupied housing units that returned an initial bilingual questionnaire, 6.5 percent had more than six persons reported in their households. Looking at all Persons 1 through 6 in the universe, 81.3 percent had all their person-level data items reported. Of Persons 7 and 8, approximately 68.0 percent had all their person-level data items reported. The design of the bilingual questionnaire yielded 2.8 percent more full person-level column data compared to what we would have received for a six-person data column questionnaire.

6. *What are the item nonresponse rates for each item on the bilingual questionnaire? By Mailout/Mailback areas and by Update/Leave areas? By Hispanic origin?*

Similar to results from previous tests and the 2008 Census Dress Rehearsal, all household-level items have higher nonresponse than person-level items with the exception of the race item. It appeared from previous tests that the high item nonresponse for household items could be the result of the design of the questionnaire, specifically a crowded first page. By the time the 2007 study results were in, the content design was finalized and the crowded first page concern could not be remedied. Test results showed that whole household-level item nonresponse would not substantially affect coverage followup workloads. For the 2010 Census analysis, we also removed cases with all household-level data missing (presumably those affected by questionnaire design issues). The item nonresponse rates of household items for the remaining households are

lower. This suggests that those respondents who skipped the entire first page of the bilingual questionnaire were the primary drivers of the relatively high household-level item nonresponse rates.

7. *What are the demographic characteristics of the respondents to the bilingual questionnaire? By Mailout/Mailback area and by Update/Leave area? By bilingual identification type?*

About 55 percent of respondents who utilized the bilingual questionnaire were of Hispanic origin. In Mailout/Mailback areas, 55.1 percent of respondents using the bilingual questionnaire were Hispanic; 59.9 percent in Update/Leave areas.

Of all bilingual questionnaire respondents (Person 1), 55.2 percent were Hispanic, 59.3 percent were male, 66.6 percent marked the White checkbox only, 46.7 percent were renters, their average age was 50.6, and the average household size was 3.2 people.

8. *What percentage of the bilingual returns and English-only returns were sent to Coverage Followup, overall and by reason, and what were the resolution rates?*

Results from the 2005 National Census Test and the 2007 Study showed item nonresponse rates for the bilingual questionnaire were higher for all household-level items (household size, undercount, tenure, and telephone number). The 2007 Study also showed a slightly lower proportion of bilingual questionnaires sent to Coverage Followup compared to English-only questionnaires (Govern and Reiser, 2008).

The concern for the 2010 Census, based on 2007 results, that there would be higher levels of within household coverage loss for bilingual returns does not appear to be realized since bilingual proportions of cases sent to Coverage Followup were higher, even accounting for population differences. This does not necessarily mean there was no coverage loss, but the loss was not appreciable enough to bring the proportion lower than the English proportion.

9. *What was the public reaction, if any, to the bilingual questionnaire (for example, media attention and other anecdotal information)?*

Announcement of the bilingual questionnaire began circulating with regularity among media outlets around mid-March 2010. Overall, the media coverage was objective and primarily instructional, i.e., informing the public about the bilingual and other language questionnaires. Many pointed out that this is the first time the Census Bureau has produced a bilingual questionnaire in an effort to increase response from Hispanic respondents. Little negative reaction was discovered in our media search. Note that this information is anecdotal and is not a comprehensive evaluation of public reaction.

1. Introduction

The most prominent data collection effort mounted by the Census Bureau is the constitutionally mandated decennial census of the nation's population and housing. For the 2010 Census, the U.S. Census Bureau delivered a bilingual English/Spanish census questionnaire to housing units (HUs) in selected collection blocks that were estimated to most likely need Spanish language assistance (see section 2.1 for more information about block selection). The 2010 Census bilingual questionnaire is a booklet containing questions and response options in both English and Spanish in a side-by-side, "swim-lane" format.

1.1 Purpose of Study

The purpose of this assessment is to provide outcome measures, such as response patterns and item nonresponse (INR) rates, related to the use of a bilingual questionnaire. Additionally, this assessment presents anecdotal feedback pertaining to the use of the bilingual questionnaire. Specifically, this assessment addresses the following research questions:

1. How many blocks were selected to receive the bilingual questionnaire? By bilingual identification type? ¹ How many HUs were sent a bilingual questionnaire? By Mailout/Mailback (MO/MB) areas and by Update/Leave (U/L) areas?
2. What is the relative response rate differential between the areas identified to receive the bilingual questionnaire in the 2010 Census and the areas that received the English-only questionnaire in the 2010 Census?
3. What is the participation rate and Undeliverable as Addressed (UAA) rate for the addresses to which the bilingual questionnaire was distributed? By MO/MB areas and by U/L areas? By bilingual identification type?
4. What percentage of the bilingual returns used only the Spanish column to respond? What percentage filled out the English column only? What percentage of the bilingual returns used both the English and Spanish columns to respond? By Hispanic origin of Person 1? By bilingual identification type?
5. What percentage of the bilingual questionnaires with reported household sizes greater than six captured full information for Persons 7 and 8 (if applicable)? What increase to the number of complete person-level returns does the design of the bilingual questionnaire provide by allotting full data columns for Persons 7 and 8? "Complete

¹ Areas (census tracts and all blocks within those census tracts) were identified to receive the bilingual questionnaire from American Community Survey data (data-identified) or from the Regional Directors (local knowledge). The analysis reports the results of both types of identification.

person-level data items” refers to relationship, sex, age/date of birth, Hispanic origin, and race.

6. What are the INR rates for each item on the bilingual questionnaire? By MO/MB areas and by U/L areas? By Hispanic origin?
7. What are the demographic characteristics of the respondents to the bilingual questionnaire? By MO/MB area and by U/L area? By bilingual identification type?
8. What percentage of the bilingual returns and English-only returns were sent to Coverage Followup (CFU), overall and by reason, and what were the resolution rates?
9. What was the public reaction, if any, to the bilingual questionnaire (for example, media attention and other anecdotal information)?

1.2 Background

The MO/MB questionnaire in Census 2000 was an English-only form with language guides if needed. Single language questionnaires (Spanish, etc.) were available upon request. The Census Bureau tested a bilingual English/Spanish census questionnaire in the 2005 National Census Test (NCT). Results from the 2005 NCT showed that the bilingual questionnaire significantly increased the self-response rate nationally and, more specifically, in areas where there was a high concentration of non-White or Hispanic populations (Bouffard and Tancreto, 2006). However, INR rates for the bilingual questionnaire were higher for all household-level items (household count, undercount, tenure, and telephone number) and the Hispanic origin item compared to the English-only questionnaire² (Bouffard and Tancreto, 2006).

Two rounds of cognitive testing of the bilingual questionnaire were performed in preparation for the 2010 Census. The objective of the first round was to test part of the 2005 NCT version of the bilingual questionnaire, specifically the Spanish translation contained in the questionnaire. This questionnaire was tested using only Spanish speaking respondents. Several recommendations from this first round of testing were incorporated into the second round of testing (Goerman, Caspar, Sha, McAvinchey, & Quiroz, 2007a).

In 2007, the Census Bureau conducted a follow-up study of the bilingual questionnaire to determine if the INR issues could be resolved by improved questionnaire design and revised content (question wording). The objective of the second round of cognitive testing was to test this 2007 study version of the bilingual questionnaire. This second round of testing involved more traditional cognitive testing that focused on comprehension in addition to navigation and issues of INR. This questionnaire was tested using some Spanish-only speaking respondents,

² Note that the response categories for the 2005 NCT Hispanic origin item were ‘yes’ and ‘no’ which was different from the Hispanic origin item in subsequent tests and the 2010 Census.

some English-only speaking respondents, and some bilingual English/Spanish speaking respondents. For the most part, testing showed that the changes made from the 2005 NCT questionnaire to the 2007 study questionnaire worked well. Some additional changes were recommended and some future research was advised (Goerman et al., 2007b).

The 2007 study provided insight into the impact of the bilingual questionnaire in areas that contained a heavy concentration of Spanish-speaking people with a potential need for language assistance. Results from the 2007 study again showed an increase in self-response for the bilingual questionnaire compared to the English-only questionnaire for the selected areas. Earlier tests of the bilingual questionnaire had a cover letter attached to it whereas the English-only questionnaire did not. To address the high INR rates for the household-level items, it was hypothesized and tested that detaching the cover letter from the questionnaire would allow the household-level items to become more apparent to respondents, thus reducing nonresponse to these items. However, INR rates for all of the household-level items were significantly higher on this bilingual questionnaire panel than the English-only questionnaire panel. Even with the removal of the cover letter, the first page of the bilingual questionnaire still looked different and was wordier than the first page of the English-only questionnaire. Note that several content changes between the bilingual questionnaire tested in the 2005 NCT and the bilingual questionnaire tested in the 2007 study increased the amount of text on the first page of the questionnaire and thus gave it a more crowded appearance. This crowded appearance may have contributed to the high INR of the household-level items (Govern and Reiser, 2008).

In addition to the higher INR for the household-level items, the race INR rate was significantly higher on the bilingual questionnaire compared to the English-only questionnaire. This difference was not surprising, as there were a higher percentage of Hispanic persons reported on the bilingual questionnaire compared to the English-only questionnaire and, as past research has shown, Hispanic respondents are less inclined to answer the race question than non-Hispanics (Humes, 2009).

A significantly lower INR rate was reported for the Hispanic origin question on the bilingual questionnaire tested in the 2007 study compared to the English-only questionnaire used in the 2007 study. Prior research has shown that the INR rate for the Hispanic origin question on the bilingual questionnaire is higher among non-Hispanics than Hispanics. Recall that in the 2005 NCT, INR for the Hispanic origin question was higher on the bilingual questionnaire. Content changes made between 2005 NCT and 2007 study affected the Hispanic origin question wording. The 2005 NCT version had a “yes” or “no” response option, whereas the 2007 questionnaire version had detailed response options, which was believed to be an improvement (Govern and Reiser, 2008).

A bilingual questionnaire was assessed in the 2008 Census Dress Rehearsal. This 2008 Census Dress Rehearsal was held in two sites: San Joaquin county California, and Fayetteville and Eastern North Carolina. The bilingual questionnaire was distributed to specific collection

blocks³ in MO/MB areas in the 2008 Census Dress Rehearsal sites where at least 20 percent of the households had at least one person (age 15 or over) that spoke Spanish and spoke English “well,” “not well,” or “not at all” (Bentley and Allmang, 2006). The bilingual self-response rates in the 2008 Census Dress Rehearsal were in line with the results of the 2007 study.

The bilingual questionnaire INR rates for the household items for both 2008 Census Dress Rehearsal sites were also generally in line with what was found in the 2007 study. Specifically, INR rates for all of the household-level items remained relatively higher on the bilingual questionnaire compared to the English-only questionnaire. When removing cases with all household-level data missing (presumably those affected by a questionnaire design issue), the INR rates for the bilingual returns were generally in line with the rates for English-only returns. This suggests that those respondents who skipped the entire first page of the bilingual questionnaire were the primary drivers of the relatively high bilingual household-level INR rates (Hill, Rothhaas, Lestina, 2009).

2. Methodology

2.1 Bilingual Universe

The universe for this analysis consists of bilingual returns in bilingual tracts irrespective of subsequent processing. For example when a HU returned a bilingual questionnaire but was also in a later operation, such as CFU or Nonresponse Followup (NRFU), our analysis only looks at the bilingual return for that HU. Note that some of these returns were not selected through the Primary Selection Algorithm and thus are not included in the final Census.

A list of the state, county, and block codes identified for the bilingual universe, as well as maps identifying the areas can currently be found at:

www.2010.census.gov/partners/materials/inlanguagemaps.php

2.1.1 Identification of Bilingual Areas Prior to the 2010 Census

The bilingual questionnaire for the 2010 Census was distributed to specific collection blocks in MO/MB and U/L areas where we determined there may be a need for Spanish assistance. Data from the 2005, 2006, and 2007 American Community Survey (ACS) were used to identify the tracts that were to receive the bilingual questionnaire (data-identified). In order to provide local knowledge that may have been more current than the 2005 through 2007 ACS data, 8 of the 12 Regional Directors (RDs) (Boston, New York, Philadelphia, Kansas City, Seattle, Dallas,

³ Collection blocks are the smallest area that the U.S. Census Bureau uses to collect information for the decennial census. A collection block may be split by the boundary of any legal or statistical entity later recognized by the Census Bureau for census data presentation.

Denver, Los Angeles) identified census tracts to be added to the mailout of the bilingual questionnaire (local knowledge). The other four RDs (Detroit, Chicago, Charlotte, and Atlanta) confirmed that they reviewed the preliminary sample of bilingual areas and had no additional tracts to add.

Households were identified as needing “Spanish Assistance” if at least one adult (age 15 or over) in the household spoke Spanish and spoke English “well,” “not well,” or “not at all.” Those who spoke English “very well” were not identified as needing “Spanish Assistance”. Tracts were selected to receive the bilingual questionnaire if at least 20 percent of the occupied HUs in the tract were identified as needing “Spanish Assistance”. For operational purposes, these tabulation tracts were linked to the appropriate collection blocks. All HUs in these blocks (with the exception of those selected for one of the 2010 Census experiments) received a bilingual English/Spanish initial questionnaire (Bentley, 2008).

2.1.2. Analysis of the Bilingual Mailing Following the 2010 Census

The bilingual analysis universe is based on initial bilingual returns. Results from these returns are based on the 2010 Decennial Response File (DRF). The DRF contains:

- geography for all collection blocks,
- HU information (including address and operational information) for all HUs (including vacant HUs),
- return data for all HU returns, and
- person data for all persons on HU returns.

The following enumeration records are not included in the bilingual assessment:

- persons residing in group quarters,
- vacant HUs,
- duplicate HUs, and
- HU’s already selected for one of the 2010 Census experiments.

The purpose of this assessment is to document information about the use of the stratified implementation of the bilingual questionnaire in the 2010 Census. Since the replacement questionnaire is an English-only questionnaire, this assessment concentrates on the initial questionnaire in bilingual blocks.

2.2 Bilingual Questionnaire Design

The 2010 Census bilingual questionnaire was a booklet containing questions and response options in both English and Spanish in a side-by-side, “swim-lane” format (see Attachment A). To make use of the two additional pages that result from the design of the booklet, the bilingual

questionnaire collected full information for Persons 7 and 8 in addition to Persons 1 through 6, with an extended roster (similar to the MO/MB questionnaire) for Persons 9 through 12. In comparison, the English-only questionnaire collected full information for Persons 1 through 6 with an extended roster for Persons 7 through 12 (see Attachment B).

2.3 Mailing Strategy

Every HU in the selected areas was sent a bilingual advance letter as a first contact. The advance letter informed households that they would soon receive a request to complete a questionnaire for the 2010 Census. The bilingual advance letter had the same “swim-lane” design as the bilingual questionnaire.

The second mailing was the initial questionnaire package. HUs in the selected areas received a bilingual questionnaire and a first-class, postage-paid return envelope. Also included in the package was a separate, bilingual “swim-lane” cover letter from the Director of the Census Bureau that encouraged households to respond.

The third mailing was a reminder letter. The reminder letter asked households to respond if they had not already done so. The bilingual areas received a bilingual, “swim-lane” reminder letter instead of the traditional English-only postcard since the addition of the Spanish translation requires more space than is available on the postcard.

The fourth and final mailing was an English-only replacement questionnaire. The distribution of this replacement questionnaire was different, depending on tract assignments (Letourneau and Zajac, 2008):

- A blanket replacement mailing was delivered to all HUs in predetermined census tracts with expected low mail response rates.
- A targeted replacement mailing was delivered to nonresponding HUs in predetermined census tracts with expected moderate mail response rates.
- No replacement mailing was delivered to HUs in predetermined census tracts with expected high mail response rates.

The replacement questionnaire was English-only, even in the bilingual areas. While, ideally, the replacement questionnaire would be bilingual, the replacement questionnaire operational design and timing for the 2010 Census could not accommodate variations in the replacement mailing.

2.4 Definitions

In this section, definitions and formulas are provided for relevant response measures of interest.

2.4.1 Mail Participation, Mail Response, and Mail Return Rates

The results section of this report includes the number of bilingual questionnaires, along with the bilingual questionnaire mail participation, mail response, and mail return rates.

The mail participation rate formula is:

$$\text{Mail Participation Rate} = \frac{\text{Unduplicated non-blank}^4 \text{ bilingual mail returns (initial)}}{\text{HUs in Bilingual Areas - UAAs}} * 100 \text{ percent}$$

The mail return rate is an indicator of respondent cooperation.

The formula is:

$$\text{Mail Return Rate} = \frac{\text{Unduplicated good}^5 \text{ bilingual mail returns (initial)}}{\text{Occupied HUs in Bilingual Areas}^6} * 100 \text{ percent}$$

The mail response rate formula is:

$$\text{Mail Response Rate} = \frac{\text{Unduplicated good bilingual mail returns (initial)}}{\text{HUs in Bilingual Areas}} * 100 \text{ percent}$$

2.4.2 Undeliverable as Addressed Rates

The UAA rate is computed for all HUs in the bilingual MO/MB universe. A HU is considered a UAA if the initial questionnaire mailing package was returned by the United States Postal Service (USPS) as UAA. This provides an indication of how many bilingual mailings were undeliverable by the USPS for reasons that include vacant units. The UAA rate is defined as follows:

⁴ See Cardella, 2010.

⁵ A return is considered good if the value of the variable PP_GR (Good Return Flag) on the Decennial Response File is equal to 1. The value of 1 represents a valid return that is eligible for the primary selection algorithm (Pennington et al., 2011). This variable takes into account data-defined persons but considers other factors as well.

⁶ Occupied HU status, used in the denominator of the return rate formula, was based on the final occupancy status on the CUF (variable FINAL_STATUS). Note that the mail return rate formula used in the forthcoming report, *2010 CPEX Mail Response and Return Rates Assessment*, differed from the formula used for this assessment since the former had an additional comparability requirement with previous decennial census rates.

$$UAA \text{ rate} = \frac{\text{Addresses in Bilingual Areas identified as UAAs}}{\text{HUs in Bilingual MO/MB Areas}} * 100 \text{ percent}$$

2.4.3 Persons 7 and 8

Due to the design of the bilingual questionnaire, we were able to collect full demographic information for Persons 7 and 8, as opposed to the English-only questionnaire, which only allows for full information for Persons 1 through 6. The percent increase to the number of person returns that the design of the bilingual questionnaire provides is calculated using this formula:

$$\text{Percent Additional People} = \frac{\text{Number of persons, 7 and 8, with full data items}}{\text{Number of persons, 1 through 6, with full data items}} * 100 \text{ percent}$$

Note that “Full person-level data items” refers to all of the following data items being requested: relationship, sex, age/date of birth, Hispanic origin, and race.

2.4.4 Item Nonresponse Rates

INR rates on the bilingual questionnaires are provided for person-level data items (relationship, sex, age/date of birth, Hispanic origin, and race) and overcount, as well as household-level items (household count, undercount, tenure, and phone number). The INR rates are also computed by language column. The formula for the INR rate is:

$$INR \text{ rate} = \frac{\text{Number of Missing Items}}{\text{Universe for Item Nonresponse}} * 100 \text{ percent}$$

3. Limitations

The following assumptions and limitations should be taken into account when reading the results from this report:

- No direct comparison can be made regarding the bilingual returns between the 2010 Census and Census 2000 since Census 2000 did not have a bilingual questionnaire. An effort was made for the 2008 Census Dress Rehearsal to compare relative response differences between the 2008 Census Dress Rehearsal response rates and Census 2000 short-form questionnaire response rates in the equivalent 2008 Census Dress Rehearsal MO/MB blocks. However, numerous limitations, including geographic differences, made results incomparable.

- The bilingual questionnaire is distributed to specific demographic areas in lieu of the English-only initial questionnaires. Due to population differences between those who receive the bilingual questionnaire and those who receive the English-only questionnaire during the initial mailing, we cannot draw any causal conclusions based on direct comparisons between the two questionnaires.

4. Results

A total of 7,032 tabulation tracts were identified to receive the bilingual questionnaire. Of these, 465 were identified by the RDs.

Table 1 below shows the number of blocks and HUs within those blocks that were mailed the bilingual questionnaire. The numbers are disaggregated by whether the bilingual blocks were identified by ACS data (Data-Identified) or whether they were identified by the RDs based on local knowledge (Local Knowledge).

Table 1. Bilingual Blocks and Housing Units

	MO/MB (%)		U/L (%)		Total
	Data Identified	Local Knowledge	Data Identified	Local Knowledge	
Blocks	271,492 (85.4)	17,007 (5.4)	27,661 (8.7)	1,706 (0.5)	317,866
HUs	10,897,641 (89.7)	821,610 (6.8)	393,660 (3.2)	31,520 (0.3)	12,144,431

Source: 2010 Census Unedited File

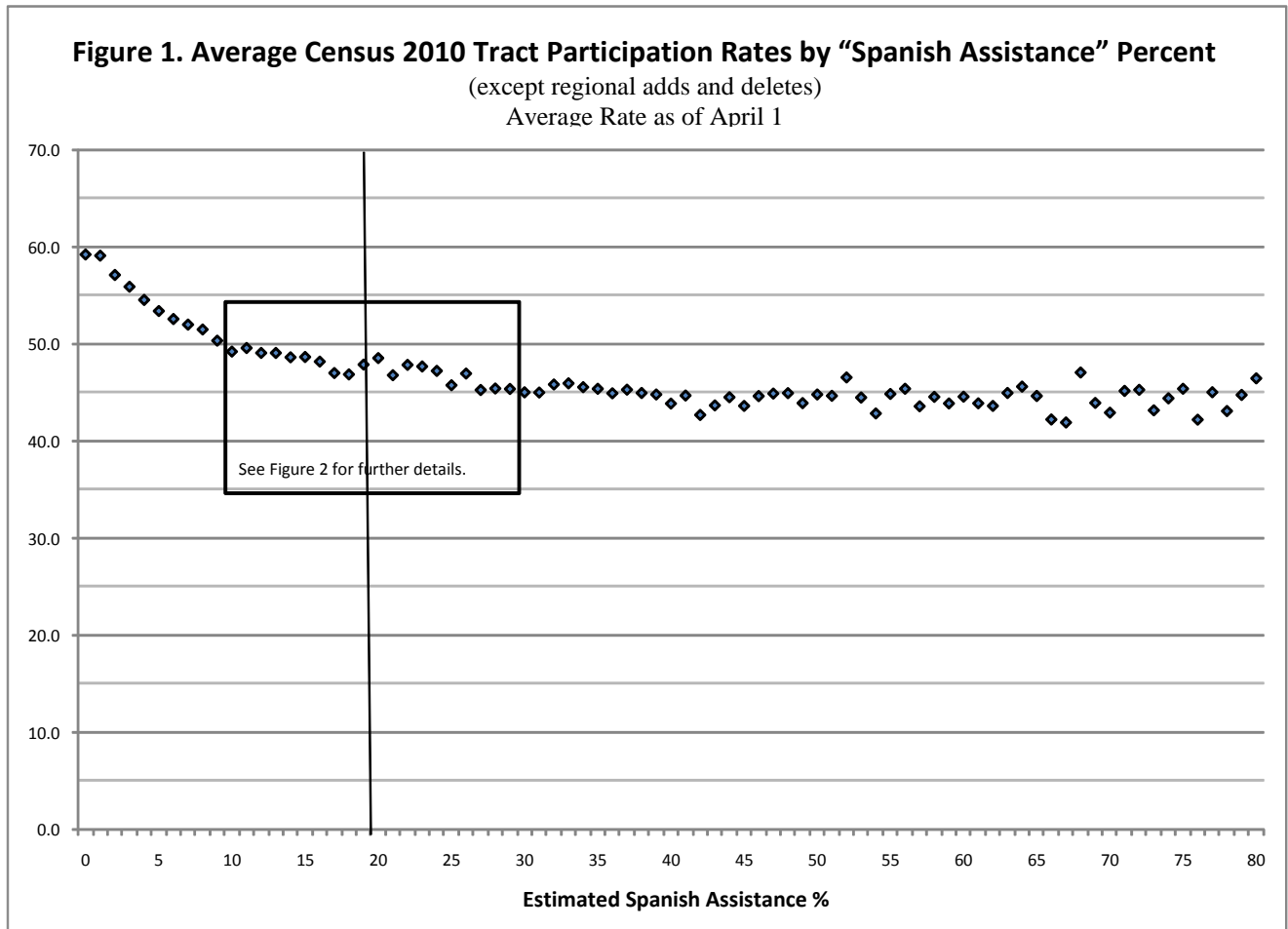
The occupied housing unit analysis file of bilingual returns consists of 7,110,421 housing units. The number of valid persons in these occupied housing units is 22,874,796 persons.⁷

4.1 Preliminary Analysis of 2010 Census Bilingual Questionnaire Participation Rates (Bentley, 2010)

As part of a preliminary analysis of the impact of the bilingual questionnaire on 2010 Census mail participation, we examined the census tract-level participation rates compared to estimated “Spanish Assistance” percentages.

Figure 1 shows a plot of the average 2010 Census participation rates for all tracts as of April 1, 2010 by estimated “Spanish Assistance” percentage in each tract. This analysis focused on returns by April 1 in order to control for the potential impact of the English-only replacement questionnaires. The vertical line demarcates the 20 percent threshold for receiving bilingual questionnaires.

⁷ The code “FINAL_STATUS=1” from the Census Unedited File (Operation file) was used to identify occupied HUs for both the HU analysis file and the person-level analysis file. In addition, the variable “PP_GP=1” on the DRF person files was used to identify valid persons.



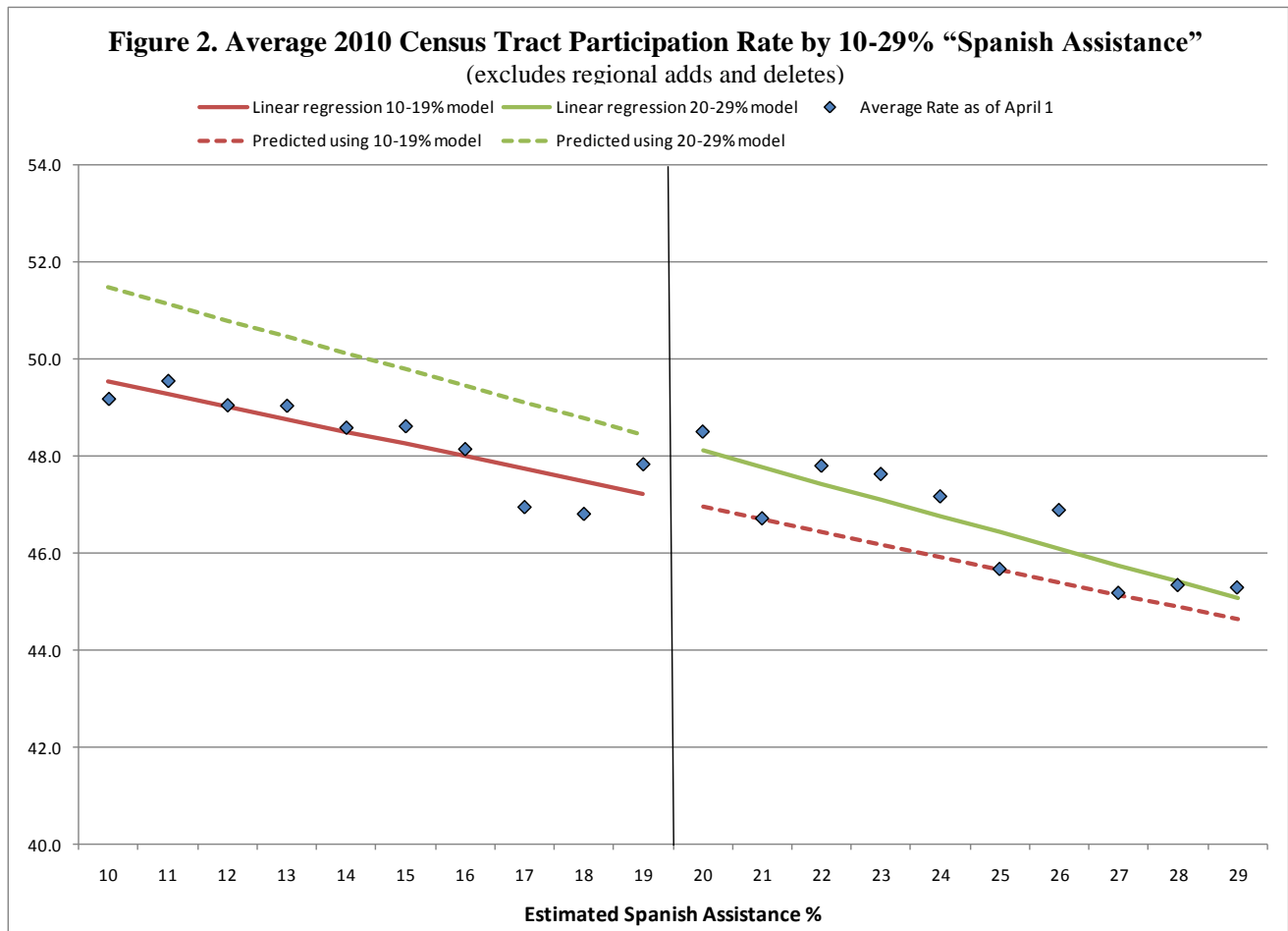
Note that the vertical line denotes the demarcation at 20 percent “Spanish Assistance” for each census tract, indicating areas that did not receive the bilingual form (less than 20 percent) and the areas that did receive the bilingual form (20 percent or higher).

Note for ease of interpretation, the analysis only includes tracts identified using the ACS data and excludes the tract changes provided by the RDs.

- The highest participation rates were from census tracts with the lowest “Spanish Assistance” percentages.
- The participation rates drop sharply as the “Spanish Assistance” percentage increase, and then begin to level off after about 10 percent.

Next, Figure 2 provides a closer look at the participation rates for tracts near the 20 percent threshold for determining areas to receive bilingual questionnaires by highlighting those with at least 10 but less than 30 percent “Spanish Assistance”. The theory here is that there would be a discontinuity in the data at 20 percent; areas that received the bilingual questionnaire (20-29 percent) would benefit (since 2007 research found that the bilingual questionnaire improved

response by two percentage points), while areas just under the threshold might suffer. The dotted-green line predicts what the 10-19 percent tracts might have achieved if they had received a bilingual questionnaire, and the dotted-red line extrapolates how the 20-29 percent tracts might have done if they had not received a bilingual questionnaire. Note that this analysis is only a simulation, and not the results of true experimental design to evaluate the impact of the bilingual questionnaire on response.



Note that the vertical line denotes the demarcation at 20 percent “Spanish Assistance” for each census tract, indicating areas that did not receive the bilingual form (less than 20 percent) and the areas that did receive the bilingual form (20 percent or higher).

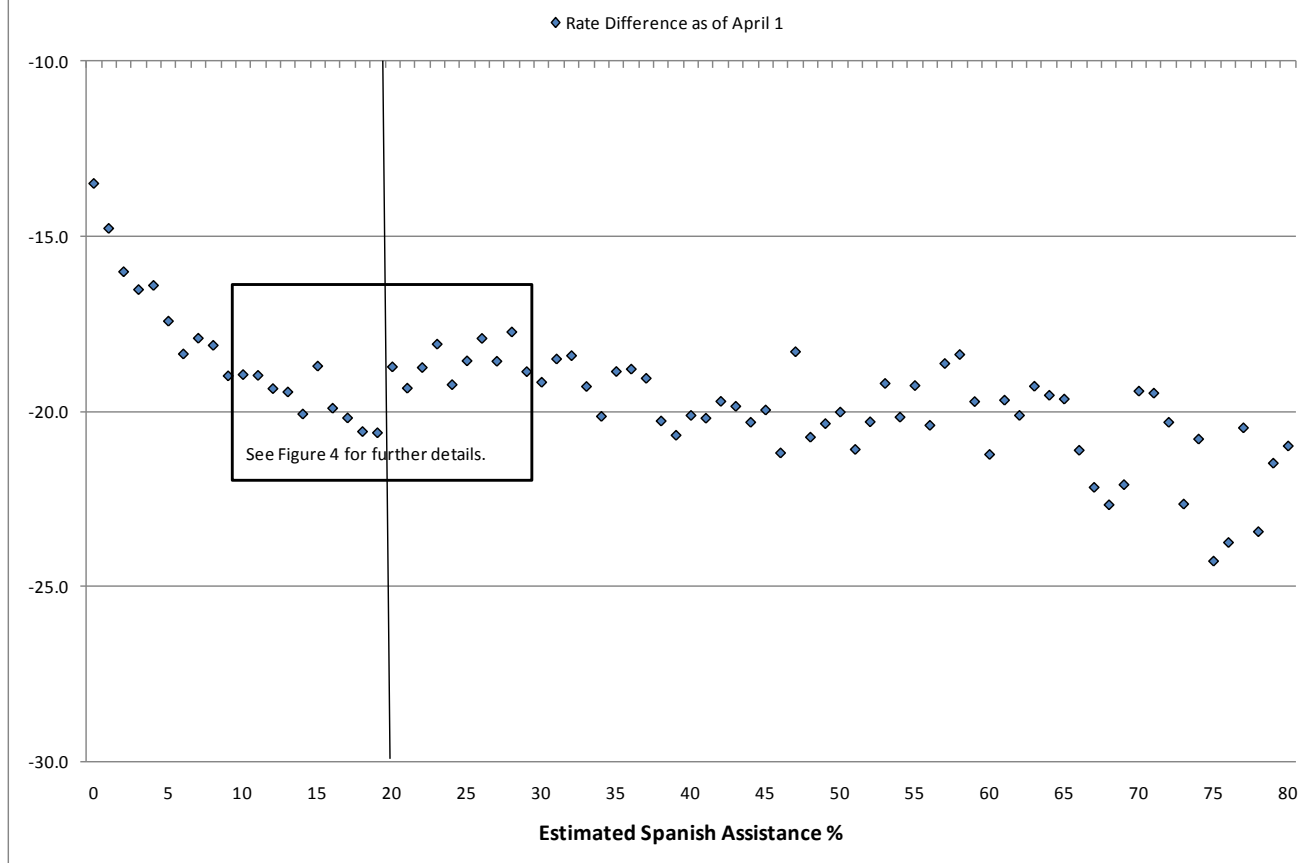
- There is a slight downward slope in the participation rates for both the left (not bilingual) and right (bilingual) sides of the plot.
- Using linear regression the dotted-green line shows that the 10-19 percent “Spanish Assistance” areas may not have performed as well as they could have had they received bilingual questionnaires since the predicted values are higher than the actual values. (A non-linear quadratic regression was also tested, but was not significantly different).

- Conversely, the dotted-red line indicates that the 20-29 percent areas likely did better than if they had not received bilingual questionnaires. A Chow test confirms that there is a significant break in the data at 20 percent “Spanish Assistance”, indicating that the regression lines are different (p-value ≈ 0.025) (Chow, 1960).
- This analysis may dull the full impact of the bilingual questionnaires since we did not include returns after April 1, 2010 in order to control for the replacement questionnaires. Further, in order to focus on the areas nearest to the 20 percent threshold, we did not measure the impact for the more-dense “Spanish Assistance” areas (30 percent or more), which may have benefited even further from bilingual questionnaires. More than 7 million HUs are in the denser “Spanish Assistance” tracts.
- While these results suggest that the bilingual questionnaire provided substantial benefit to the areas that were targeted, further analysis to control for a range of factors is highly recommended.
- Note that the data cannot be compared directly to Census 2000 because the ACS was not implemented nationally yet, so there is no equivalent contemporary “Spanish Assistance” information for each tract.

4.2 Supplemental Analysis of Bilingual Questionnaire Participation Rates: Difference Between the 2010 Census and Census 2000 (Bentley, 2010)

At the request of the Director of the Census Bureau we also performed a supplemental analysis which used the difference in participation rate between the 2010 Census and Census 2000 as the response measure. We plotted the average census tract participation rate differences (2010 minus 2000) by “Spanish Assistance” percentage, as shown in Figure 3. Note that the 2010 Census participation rate is based on data for returns received by April 1, 2010 to exclude the replacement questionnaire effect, which was not present in Census 2000. The short form “participation rate” for Census 2000 is based on the NRFU cut at April 18, 2000 (we do not have April 1, 2000 participation data) and was a slightly different calculation.

Figure 3. Difference in Average Census Tract Participation Rates 2010 minus 2000 by “Spanish Assistance” Percent (except regional adds and deletes)

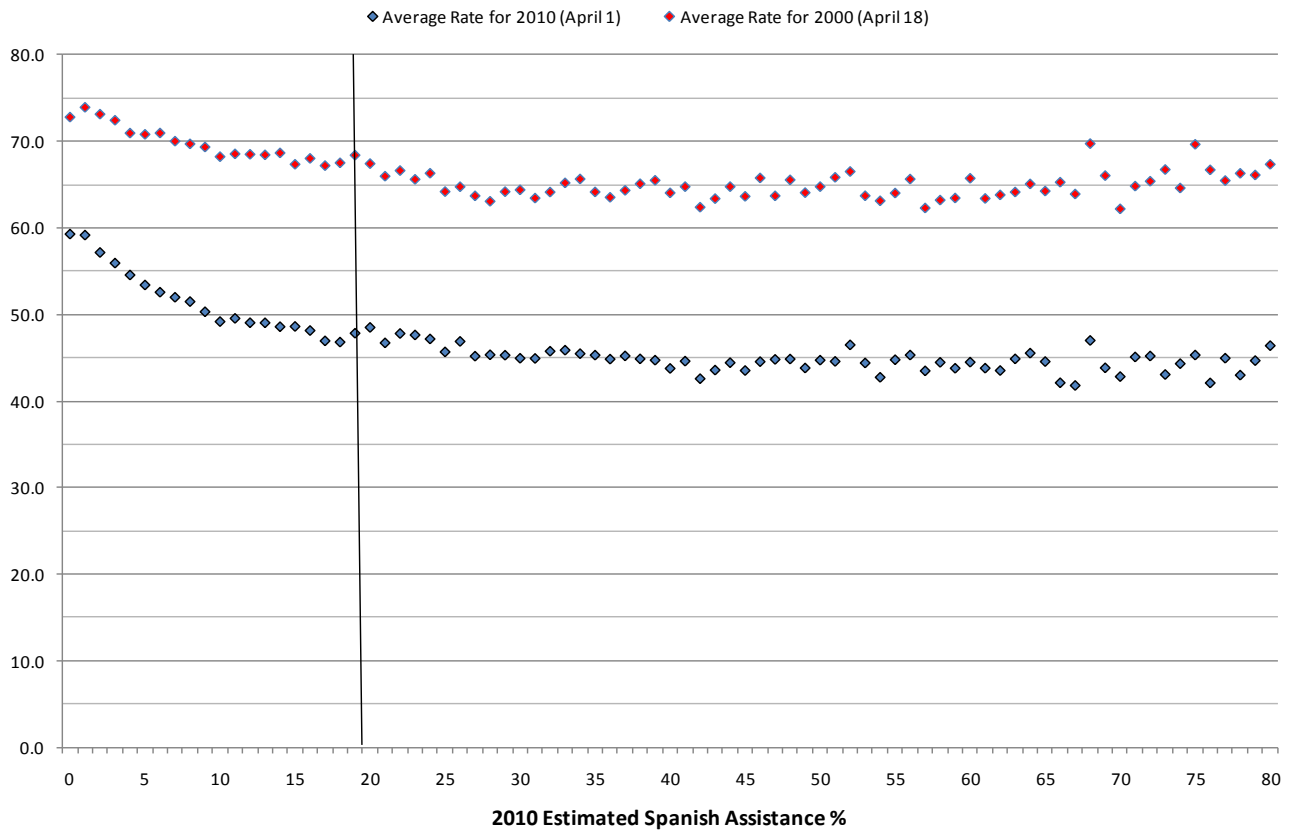


Note that the vertical line denotes the demarcation at 20 percent “Spanish Assistance” for each census tract, indicating areas that did not receive the bilingual form (less than 20 percent) and the areas that did receive the bilingual form (20 percent or higher).

- Obviously there is a break in the data at 20 percent “Spanish Assistance”. The average census tract participation rate gap between Census 2000 and the 2010 Census has narrowed for those census tracts in the bilingual mailing areas (i.e., those tracts with 20 percent or higher “Spanish Assistance”), compared to those in the 10 to 20 percent area.

Figure 4 overlays the average Census 2000 participation rates (as of April 18, 2000) on the average 2010 Census participation rates (as of April 1, 2010) by estimated “Spanish Assistance” percentage in each tract.

Figure 4. Average 2000 and 2010 Census Tract Participation Rates by “Spanish Assistance” Percent (except regional adds and deletes)

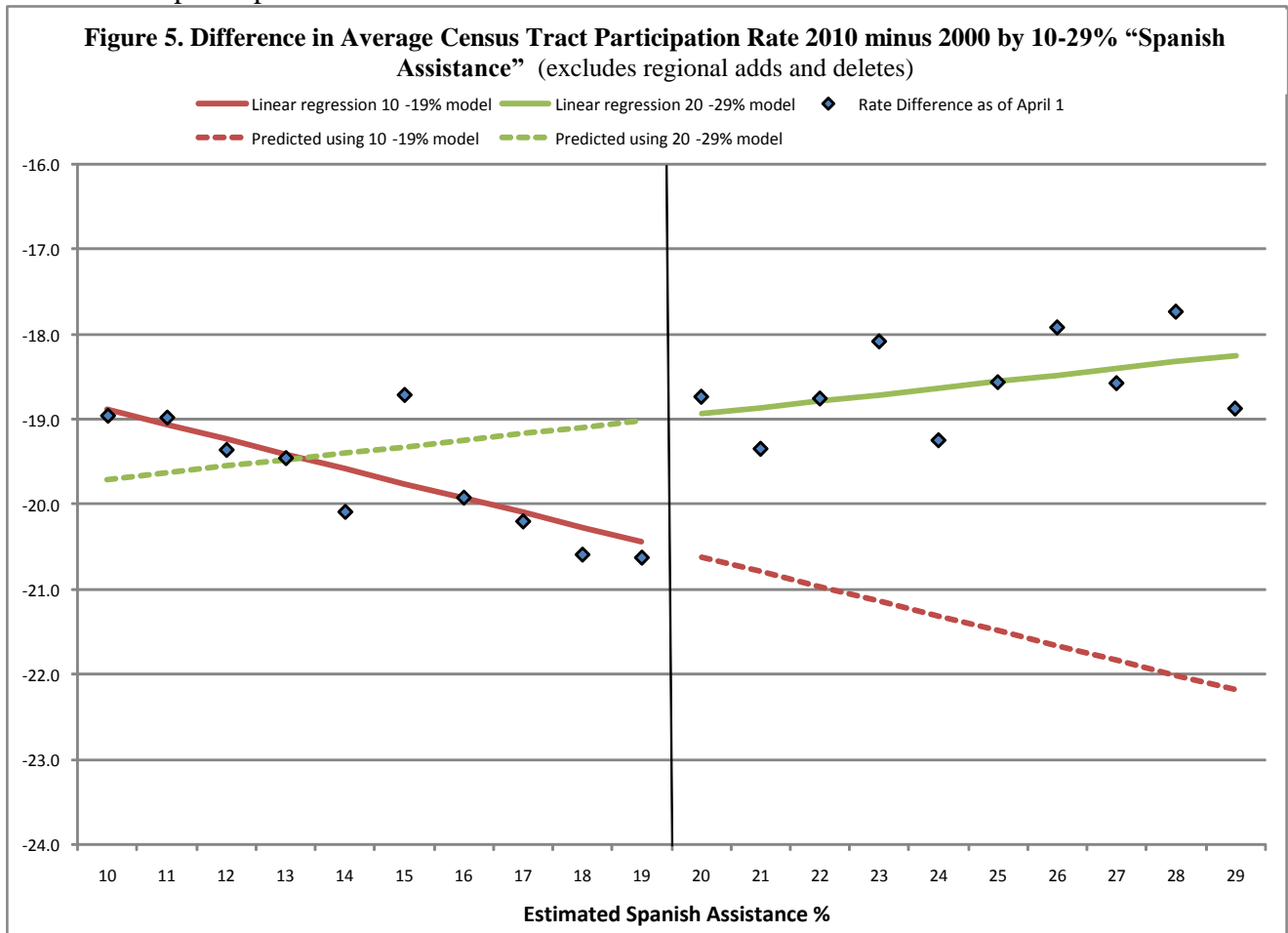


Note that the vertical line denotes the demarcation at 20 percent “Spanish Assistance” for each census tract, indicating areas that did not receive the bilingual form (less than 20 percent) and the areas that did receive the bilingual form (20 percent or higher).

- Notice the Census 2000 curve is relatively flat between 10 and 20 percent “Spanish Assistance” density but drops off in the 20 to 30 density range. We do not have a solid explanation for this behavior.
- Some noise may be present in the curve from tract characteristic differences between Census 2000 and the 2010 Census. The percent “Spanish Assistance” in comparable Census 2000 tracts is somewhat different from that in the 2010 Census. For example, Hispanic households in the 2008 Census Dress Rehearsal in San Joaquin County, California bilingual mailing areas increased by roughly 40 percent between 2000 and 2008, whereas the proportion of Hispanic households remained relatively constant in the English-only mailing areas during the same time period.

For completeness of analysis, we ran comparable regression plots from the previous section 4.1, “Preliminary Analysis of 2010 Census Bilingual Questionnaire Participation Rates,” as shown in Figure 5 below. The positive slope between 20 and 29 percent may be due to confounds

previously noted above. Overall, the trend for the impact of the bilingual mailing in the 2010 Census compared with the Census 2000 participation rate graph looks more obvious than in the original 2010 Census participation rate graph. In looking at the regression lines in the 2010 Census compared with the Census 2000 regression plot, the effect of bilingual questionnaires is exaggerated by taking the difference rather than the straight 2010 Census participation rate as the dependent variable. The difference subtracts the Census 2000 participation rate curve from the 2010 Census participation rate curve.



- The results in Figure 5 suggest that the difference between the 2010 Census and Census 2000 is smaller for the 20-29 percent “Spanish Assistance” areas than the predicted values using the 10-19 percent “Spanish Assistance” data.
- This model confirms the conclusion in the previous analysis, that the bilingual mailing areas performed significantly better than if they had received English-only questionnaires. However, limitations of the analysis should be taken into account, such as minor changes in tract-level boundaries and population changes over time from Census 2000 to the 2010 Census.

4.3 Mail Response Rate, UAA Rate, and Mail Return Rate

In bilingual blocks, of the approximately 12.1 million HUs that were mailed (MO/MB) or left (U/L) a bilingual questionnaire, 58.6 percent responded by mailing back their initial bilingual questionnaire. The breakdown of this 58.6 percent mail response rate by bilingual identification type is 54.5 percent data-identified and 4.1 percent local knowledge (see section 2.1.1). The rate of bilingual returns (mail return rate) increases to 66.7 percent when excluding non-occupied HUs.⁸

Additionally, 8.9 percent of households in bilingual blocks had their initial bilingual questionnaire returned as UAA. Of the 8.9 percent identified as UAA, 28.8 percent were determined to be occupied HUs in later operations.

4.4 Response Patterns

Response patterns on the bilingual returns were analyzed to get a better understanding of how respondents completed the questionnaire. Note that the response pattern analyses in this section are based on bilingual return data from the initial questionnaire mailing. This includes those bilingual returns that were eventually replaced by respondent data from other operations (for example, CFU and NRFU) on the Census Unedited File (CUF).

4.4.1 Language Column Selection

The set of HU-level responses on the questionnaire were identified as responding in English or Spanish based on the majority of item responses. Similarly, only one language column was selected (or “kept”) for each person’s data on the bilingual return. The language column selected was based on an algorithm that determined which column was most appropriate based on the responses received. Approximately 1 percent of respondents used dual columns to report data for the same person; the selected column is retained for analysis. (Note that the way in which respondents used the dual columns was not analyzed).

Table 2 shows the percentage of responses in each language column selected at a household level. The “English” column reflects the percentage of HUs that used only the English column for the HU-level and person-level responses for all persons in that HU. Likewise, the “Spanish” column reflects the percentage of HUs that used only the Spanish column for the HU-level and person-level responses for all persons in that HU. The “Both” column reflects the percentage of HUs that used both the English and Spanish columns. Possible combinations for the “Both” column includes:

⁸ Occupied HU status, used in the denominator of the return rate formula, was based on the final occupancy status on the CUF (variable FINAL_STATUS). Note that the mail return rate formula used in the forthcoming report, *2010 CPEX Mail Response and Return Rates Assessment*, differed from the formula used for this assessment since the former had an additional comparability requirement with previous decennial census rates.

- the English column is filled out for the HU responses and the Spanish language columns for the person responses,
- the English column is filled out for the HU responses and some of the persons on the questionnaire while the Spanish language column is used for other persons on the questionnaire,
- the English column is filled out for the person responses and the Spanish language columns for the HU responses,
- the English column is filled out for some of the persons on the questionnaire while the Spanish language column is used for the HU responses and for some of the persons on the questionnaire.

Table 2. Percentage of Returns in Each Language Column for Initial Bilingual Returns

	English			Spanish			Both		
	Total	MO/MB	U/L	Total	MO/MB	U/L	Total	MO/MB	U/L
All Initial Bilingual Returns	75.0	72.6	2.4	21.6	21.1	0.5	3.4	3.3	0.1
By Hispanic Origin of Person 1*:									
- Hispanic	54.2	52.0	2.2	39.8	38.8	1.0	6.0	5.8	0.1
- Not Hispanic	99.6	96.8	2.7	0.3	0.3	<0.1	0.2	0.2	<0.1
By Bilingual Identification Type:									
- Data-Identified	73.8	71.5	2.4	22.7	22.1	0.6	3.5	3.5	0.1
- Local Knowledge	91.1	87.9	3.2	7.5	7.3	0.2	1.4	1.4	<0.1

Source: 2010 Decennial Response File

* Includes only respondents (PNUM=1) who answered the Hispanic origin question.

The majority of respondents used the English columns (75.0 percent in the 2010 Census). A total of 3.4 percent of respondents switched lanes; 6.0 percent of self-identified persons of Hispanic origin switched lanes.

As shown in Table 2, almost all respondents (over 99 percent) who did not identify themselves as Hispanic responded using only the English column. Of those who identified as Hispanic, over half used only the English lane, 39.8 percent used only the Spanish lane, and 6 percent used a combination of English and Spanish lanes. Thus the “swim-lane” design seemed to benefit Spanish speaking people who might have needed language assistance.

4.4.2 Persons 7 and 8

This section of the report looks at the bilingual questionnaires with reported household sizes greater than six that captured full information for Persons 7 and 8. Recall that the bilingual questionnaire collects full information for Persons 1 through 8, whereas the English-only

questionnaire only collects full information for Persons 1 through 6. Full information for persons refers to relationship, sex, age/date of birth, Hispanic origin, and race.

Of the 7,110,421 occupied HUs that returned an initial bilingual questionnaire, 6.5 percent (461,339 HUs) had more than 6 persons reported in their households. The design of the bilingual questionnaire yielded 2.8 percent more full person-level column data compared to what we would have received for a six-person data column questionnaire. Of the 731,540 records corresponding to Persons 7 and 8, approximately 68.0 percent had all person-level data items reported. Looking at all Persons 1 through 6 in the universe (21,816,541 people), 81.3 percent had all their person-level data items reported.

4.4.3 Effect on Coverage Followup Large-Households

Another effect of collecting complete information for Persons 7 and 8 was the impact on the large-household CFU workload. Specifically, the number of questionnaires sent to CFU was reduced for the bilingual questionnaire large household criteria. A bilingual questionnaire met the large household criteria if either the reported population count or the number of persons with sufficient information provided was greater than eight, or the population count was blank and there were exactly eight persons with sufficient information.

The percentage of HUs sent to CFU due to large household criteria in bilingual areas was 2.3 percent. The proportion of bilingual questionnaires that would have gone to CFU under the English-only large household criteria (valid persons greater than six) was approximately 6.2 percent. So approximately 4 percent less bilingual cases were sent to CFU based on the large household criteria. See section 4.7 below for more details regarding CFU.

4.5 Item Nonresponse Rates for Initial Bilingual Questionnaires

The INR rates in Table 3 are for bilingual questionnaire mail returns. Note that this includes those bilingual returns that were eventually replaced by CFU, NRFU, and other types of records on the CUF and subsequent files (i.e., we used the data from the bilingual return that were included on the DRF, as opposed to just the returns of record from other/later operations).

Table 3. Item Nonresponse Rates - Initial Bilingual Returns by Type of Enumeration Area

Item	Overall	MO/MB	U/L
Household Items			
Household count	4.2	4.2	3.3
Undercount	11.7	11.7	10.1
Tenure	4.7	4.8	4.2
Telephone Number	7.8	7.8	7.2
Person Items			
Relationship*	1.8	1.8	1.3
Sex	3.0	3.0	2.7
Age/Date of Birth	1.0	1.0	0.9
Hispanic Origin**	3.9	4.0	2.6
Race**	12.8	12.8	11.5
Overcount**	2.8	2.8	2.3

Source: 2010 Decennial Response File

* Excludes reference person.

** Rates exclude persons greater than 8 because these items are not asked of them.

Note that in addition to the checkboxes, Hispanic origin and race are considered a response if a write-in field is not blank.

The INR rates for the bilingual questionnaires are provided primarily for informational purposes.

The INR rates for the English-only initial returns are included in the 2010 Census Item Nonresponse and Imputation Assessment Report (Rothhaas and Lestina, 2011).

Bilingual questionnaire INR rates for the household items in the 2010 Census are generally lower than what was found in the 2007 study. For person-level items, they are on the same order of magnitude. The 2007 study used the same questionnaire wording as the 2010 Census. However, INR calculations for person-level items were limited to Persons 1 through 6 in 2007 (Govern and Reiser, 2008). The 2010 Census calculations limit Hispanic origin, race, and overcount to Persons 1 through 8; include all persons for sex and age/date of birth; and exclude only Person 1 from relationship.

Similar to what we have seen in previous tests and the 2008 Census Dress Rehearsal, all household items in the 2010 Census have higher nonresponse than person-level items, with the exception of race.

Table 4 shows the INR rates for initial bilingual returns in all bilingual areas with and without the exclusion of cases that were missing all household-level data. There were 160,542 bilingual returns with all the household-level items missing on the DRF (2.3 percent of the 7,110,421 bilingual returns).⁹ When looking at the CUF, we see similar results, 2.4 percent of bilingual

⁹ It is hypothesized that bilingual questionnaire respondents were more likely to skip all household-level items on the first page because the swim lane design looked like two columns of side-by-side instructions, which presented a more crowded appearance compared to the English questionnaire first page (See Attachments A and B).

returns had all their household-level items missing. This compares to 0.3 percent of initial English mail returns (MO/MB and U/L) that had all their household-level items missing.

Table 4. Item Nonresponse Rates for Bilingual Questionnaires

Household Items	Bilingual INR Rates	
	All Bilingual Returns	Excluding HUs where All Household Data are Missing
Household Count	4.2	2.0
Undercount	11.7	9.6
Tenure	4.7	2.5
Phone Number	7.8	5.7

Source: 2010 Decennial Response File

The purpose of this analysis is to determine if the missing household-level data could be attributed to a questionnaire design issue, similar to what was learned from the 2007 NCT. As shown in Table 4, when removing cases with all household-level data missing (presumably those affected by the questionnaires design issue), the INR rates for the bilingual returns are lower. This suggests that those respondents who skipped the entire first page of the bilingual questionnaire were the primary drivers of the relatively high bilingual household-level INR rates.

Table 5 shows the INR rates for initial bilingual mail returns by language column used. Data within only one language column were selected for each person on the bilingual return (see section 4.4.1 for more details). The language column data selection was determined by an algorithm based on the responses received. For those respondents who answered some questions using the English column and other questions using the Spanish column for the same person, missing data for the selected column only are included in the INR rates. For example, assume a person-level response has all items filled out on the English side except age and date-of-birth, which are filled out on the Spanish side. If the algorithm selects the English side as the return of record, then age and date-of-birth are considered missing for this person in the Census. Similarly, if the algorithm selects the Spanish side as the return of record, then all person-level items for this particular person are considered missing except age and date-of-birth. This data capture methodology has the potential for improvement in the future (see section 5).

Table 5. Item Nonresponse Rates for Initial Bilingual Returns by Language Column Used

Item	Spanish-Only	English-Only
Household Items		
Household count	3.0	4.6
Undercount	20.5	9.0
Tenure	5.1	4.6
Telephone Number	2.6	9.4
Person Items		
Relationship*	2.2	1.6
Sex	4.8	2.2
Age/Date of Birth	1.1	0.9
Hispanic origin**	1.7	4.9
Race**	19.4	9.9
Overcount**	5.1	1.7

Source: 2010 Decennial Response File

Note that in addition to the checkboxes, Hispanic origin and race are considered a response if a write-in field is not blank.

* Excludes reference person (Person 1).

** Rates exclude Persons greater than 8 because these items are not asked of them.

INR for undercount, overcount, sex and race are considerably higher on the Spanish-only column. In an attempt to explain the high undercount INR, we looked at the design of the question in the Spanish column on the front page of the questionnaire (see Attachment A). Since the last response category, “No hay personas adicionales” (No additional people) is more visually separated from the question stem by the extra line in the middle response (due to translation), respondents may not have noticed this option and left the question blank. Ultimately, this would not have affected the CFU workload since a response in the last category only verifies that there are no additional people.

It is important to note that the Hispanic origin INR is considerably lower on the Spanish side than the English side. Race is almost twice as high on the Spanish side as the English side, which supports the assertion that Hispanic respondents tend to think of origin and race as the same construct and consequently many do not respond to the race item (Humes, 2009).

Table 6 shows the person-level INR rates for initial bilingual mail returns by Hispanic origin of each person (for household-level data, Hispanic origin of Person 1 was selected). Persons without a Hispanic origin response and persons indicating both Hispanic and not Hispanic are excluded from this analysis.

Table 6. Item Nonresponse Rates for Initial Bilingual Mail Returns by Hispanic Origin of Each Person (Household items are based on Hispanic Origin of Person 1)

Item	Hispanic	Not Hispanic
Household Items		
Household count	4.6	3.1
Undercount	14.5	6.5
Tenure	5.4	2.9
Telephone Number	6.5	8.4
Person Items		
Relationship*	1.3	1.1
Sex	3.3	1.7
Age/Date of Birth	0.8	0.7
Race**	19.0	0.8
Overcount**	3.1	0.8

Source: 2010 Decennial Response File

* Excludes reference person (Person 1).

** Rates exclude Persons greater than 8 because these items are not asked of them.

Note that in addition to the checkboxes, Hispanic origin and race are considered a response if a write-in field is not blank.

Table 6 illustrates a similar pattern as Table 5. Persons of Hispanic origin, as well as those represented in the Spanish language column, have higher INR for undercount, overcount, and sex, but lower INR for telephone number.

4.6 Demographic Characteristics

Table 7 shows the demographic characteristics of ‘data-defined’ persons¹⁰ who responded to the bilingual questionnaire from the initial mailing. This analysis assumes that Person 1 is the respondent, which research indicates is true for approximately 81 percent of respondents (Lestina et al., 2008). Demographic results for persons associated with missing items are excluded (i.e., if a respondent did not mark one of the race categories, they are excluded from the race demographic characteristic below).

¹⁰ A person is considered data-defined, or valid, if they have at least two of the person-level data items filled. The person-level data items include name, relationship, sex, age/birth date, Hispanic origin, and race (Alberti, 2008).

Table 7. Demographic Characteristics of Person 1 for Initial Bilingual Questionnaires

Demographic Characteristic	Overall Percent	MO/MB Percent	U/L Percent
Average Household Size	3.2	3.2	3.1
Renters (%)*	46.7	47.4	24.8
Average Age	50.6	50.6	52.2
Male (%)*	59.3	59.1	68.2
Hispanic (%)**	55.2	55.1	59.9
Race (%):			
White Checkbox Only	66.6	65.9	85.9
Black Checkbox Only	12.7	13.0	2.0
American Indian or Alaska Native Checkbox and/or Write-in not Blank	4.9	4.9	4.0
Asian Checkboxes and/or Write-in not Blank	6.6	6.8	1.3
Native Hawaiian and Other Pacific Islander Checkboxes and/or Write-in not Blank	0.1	0.1	<0.1
Some Other Race and/or Write-in not Blank	8.4	8.4	6.5
Multiple Races	0.8	0.9	0.4

Source: 2010 Decennial Response File

*Percents exclude multiple responses as well as missing responses.

** Percents exclude those who indicated Hispanic and non-Hispanic origin as well as missing responses.

Due to the stratified distribution of the bilingual questionnaire, as well as evidence from the 2005 NCT, the 2007 study, and the 2008 Census Dress Rehearsal, we expected a high proportion of the respondents to be of Hispanic origin. For those respondents (i.e., Person 1) who provided a Hispanic origin response (i.e., excluding those who marked Hispanic and non-Hispanic), the percent of Hispanic respondents on the initial bilingual questionnaire is 55.2 percent overall.

In addition, of respondents who provided answers on bilingual questionnaires (some of which

were not complete enough to make it into the final Census count), 59.3 percent were male, 66.6 percent marked the White checkbox only, 46.7 percent were renters, the average age was 50.6, and the average household size was 3.2 people.

Approximately 92 percent of initial bilingual returns were selected as the ‘return of record’ on the Census Edited File¹¹ (CEF). While the DRF provides an early look at response data, such as race checkboxes and write-in counts, the CEF provides the results from the Census responses chosen as the return of record. Thus, race data from the CEF has been through edit and imputation procedures which affect the distributions shown in Table 7. For example, some write-ins from the Table 7 race distributions were coded and tabulated in different race categories such as Some Other Race.

Table 8 shows the demographic characteristics of HUs and data-defined persons in this final universe. This analysis assumes that person 1 is the respondent; research indicates this is true for approximately 81 percent of respondents (Lestina et al., 2008).

¹¹ The Census Edited File carries only one return per housing unit, which represents the selected ‘return of record’.

Table 8. Demographic Characteristics of Person 1 for Reported Bilingual Questionnaires in the Final Census

Demographic Characteristic	Person 1 “As Reported” Data* (Percent)	Person 1 Data After Full Editing* (Percent)
Final Average Household Size**	3.1	3.1
Renters (%)	46.9	47.2
Average Age	50.7	50.7
Male (%)	59.2	59.1
Hispanic (%)	53.1	51.7
Race (%)***:		
White Alone	65.3	63.4
Black Alone	12.5	11.7
American Indian or Alaska Native Alone	0.9	1.0
Asian Alone	6.1	5.6
Native Hawaiian and Other Pacific Islander Alone	0.1	0.1
Some Other Race Alone	11.3	14.5
Multiple Races	3.8	3.8

Source: 2010 Census Edited File

* The first column in the table contains the “As Reported” results only. These results reflect data to which pre-edits have been applied. The second column includes results from the full edit application, including imputation and substitution.

**This category is the final population count in both columns.

*** Note that race categories for this table are not directly comparable to that in Table 7 since the latter is based on unedited checkbox data.

The column containing Person 1 data before editing excludes missing data and represents the demographic characteristics as reported by the respondent. The column containing Person 1 data

after editing includes all persons in the final census count. Data in this column include data as reported by the respondent, as well as imputed data for missing or inconsistent responses.

See the appendix for the table which provides demographic data for all persons on bilingual questionnaires using the Decennial Response File. Note that Tables 8 and 9 provide demographic data just for the respondent (Person 1), while the appendix shows demographic data for all persons.

4.7 Coverage Followup Results for Bilingual Questionnaire Respondents

In both the 2005 NCT and the 2007 study, the bilingual questionnaire yielded significantly higher household-level INR rates compared to the English-only questionnaire. Household-level items include household count, undercount, tenure, and telephone number. In the 2005 NCT, there were a disproportionate number of bilingual returns that were missing all of the household-level items compared to English returns. It is believed that the disproportionately high INR rates for household-level items were a function of the design of the questionnaire. Despite attempts to correct this problem in the 2007 study (for example, removing the cover letter), the first page still appeared crowded. We hypothesized that respondents skipped the first page since they viewed it as instructions, and they started answering the questions on the second page (Govern and Reiser, 2008).

In addition to the questionnaire design likely affecting the household-level INR rates, there were concerns based on 2007 results that these returns could also lead to higher levels of within-household coverage loss for the bilingual returns. The primary concern was high INR for household count and undercount if respondents missed the first questionnaire page. Consequently, a substantial number of returns needing followup in the 2010 Census would not meet the count discrepancy or undercount criteria for CFU selection because those items were blank.¹² CFU is a Census operation that re-contacts households that satisfy criteria indicating possible coverage issues (See Govern, Coombs, and Glorioso, 2011).

Although the 2007 study did not include a CFU operation, we attempted to produce simulated rough estimates of within-household coverage loss due to CFU exclusion. The estimates showed that the use of the bilingual questionnaire was not expected to cause substantial within-household coverage loss in the 2010 Census. The 2008 Census Dress Rehearsal CFU workload components, along with resolution rates (i.e., any roster change to the number of people

¹²A bilingual questionnaire met the count discrepancy criteria if the number of valid people on the roster differed from the within-household population count. The undercount criteria was met if the respondent answers 'yes' to any of the undercount questions. The questionnaire met the large household criteria if either the reported population count or the number of persons with sufficient information provided was greater than eight, or the population count was blank and there were exactly eight persons with sufficient information. In addition, cases were flagged for CFU based on the overcount response, administrative records information, and unduplication results. For more details concerning the CFU eligible universe, see Kostanich and Linse, 2009.

enumerated) for the 2008 Census Dress Rehearsal initial questionnaires generally showed that the use of the bilingual questionnaire did not result in substantial within-household coverage loss, which may have been due to population differences in the Dress Rehearsal sites.

Below are some of the CFU results for the 2010 Census. For detailed CFU analysis, see (Govern, Coombs, and Glorioso, 2011).

Table 9. CFU Results

Source of Coverage Improvement	Percent of Households Sent to CFU*		Percent of Households Completed in CFU**		Percent of Households Completed in CFU with Roster Changes***	
	Bilingual	English	Bilingual	English	Bilingual	English
Count Discrepancies	3.8	1.5	59.2	61.9	30.6	37.0
Undercount	3.6	1.9	58.9	63.1	14.9	19.2
Large Households	2.3	1.4	60.4	65.5	14.6	11.4
Overcount	2.0	2.2	58.9	68.3	42.8	52.1
Administrative Records	1.9	0.6	58.0	64.7	8.7	7.3

Source: CFU Analysis File derived from the 2010 Decennial Response File; Computation provided by Enumeration Methods and Requirements Branch in DSSD.

Sources of coverage improvement are not mutually exclusive.

* The percentages in these columns are based on initial mailing non-blank bilingual questionnaire returns and initial mailing non-blank English questionnaire returns.

** The percentage in these columns are based on the number of Households sent to CFU (i.e., the first columns).

*** The percentage in these columns are based on the number of Households Completed in CFU.

The data in Table 9 show that a higher percentage of bilingual questionnaires were sent to CFU because of count discrepancies and undercount (items related to Page 1 of the questionnaire) than English questionnaires, which is consistent with the 2008 Census Dress Rehearsal results (Hill et al., 2009). The 2007 study also showed a slightly lower proportion of bilingual questionnaires that were eligible to be sent to Coverage Followup compared to English (Govern and Reiser, 2008). The concern for the 2010 Census, based on the 2007 study results, that there would be higher levels of within household coverage loss for bilingual returns does not appear to be realized since bilingual proportions of cases sent to Coverage Followup were higher, even accounting for population differences. This does not necessarily mean there was no coverage loss, but any CFU workload loss due to population count and undercount item nonresponse was not appreciable enough to lower the proportion of cases sent to CFU compared to that of English forms.

Finally, English questionnaires had a higher percent of roster changes than bilingual for those items related to Page 1 of the questionnaire, which is different from the dress rehearsal trend. We have no hypothesis-driven explanation for this.

This indicates that the higher percentage of bilingual questionnaires missing all household-level items (compared to English only) did not result in a substantially lower proportion of bilingual questionnaires sent to CFU. English questionnaires had a higher percent of roster changes than bilingual for those items related to page 1 of the questionnaire, which is different from the 2008 Census Dress Rehearsal trend. We have no hypothesis-driven explanation for this.

4.8 Public Reaction

To gauge public reaction to the bilingual questionnaire, the Decennial Management Division Content and Outreach area utilized four different search tools to search for and summarize references to the bilingual questionnaire. The four search tools are:

- Vocus
- Google News Alert
- LexisNexis
- Radian6

This approach to gather public reaction is not a systematic measure nor a comprehensive approach but rather an anecdotal one. The summaries presented here are qualitative and cannot be generalized.

Announcement of the bilingual questionnaire began circulating with regularity among media outlets around mid-March 2010. Overall, the media coverage was objective and primarily instructional (i.e., informing the public about the bilingual and other language questionnaires). Many articles pointed out that this was the first time the Census Bureau had produced a bilingual questionnaire in an effort to increase response from Hispanic respondents.

The media coverage for the bilingual questionnaire was broad, covering TV news, online articles, newspaper articles, magazines, and Spanish soap operas. Some of this coverage was directed specifically to the Hispanic and immigrant populations. *Latina Style Magazine*, for example, ran an article on March 30th about the efforts by the Census Bureau to reach Hispanic communities and it specifically mentioned the bilingual questionnaire.

In terms of public reaction there were anecdotal reports from the DMD's External Liaison Branch, as well as Customer Liaison and Marketing Services Office's Customer Services Center, that some public reaction was negative. We received some reports of backlash in that they felt that the bilingual form was a waste of money for a predominately English speaking country. However advisory groups and others had a very positive reaction to the bilingual form.

5. Recommendation

A formal evaluation of the effectiveness of the bilingual stratification is recommended for future research. The evaluation should address the following research questions:

- What is the optimal bilingual stratification?
- Which other areas in the 2010 Census might have benefitted from receiving the bilingual form? Research could include: regression on the percent Hispanic using more up-to-date ACS data, and looking at areas with high Spanish questionnaire requests.
- What effect would the public availability of an Internet bilingual questionnaire have on response rates and INR?
- How can the crowded appearance of the first page be minimized, and thus reduce nonresponse of all household level-items?
- What effect would bilingual replacement questionnaires in bilingual identified tracts have on response rate?
- Should other bilingual languages be considered?
- The 2010 bilingual data capture methodology for the swim-lane form involved selecting one language column for the person record when both English and Spanish columns were filled. To reduce any data loss in the future, could this methodology be improved?

6. Related 2010 Census Assessments

Mail Response/Return Rate Assessment
Coverage Followup Assessment
Item Nonresponse and Imputation Assessment

7. References

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Appendix

There were 22,874,796 valid persons in occupied HUs included on bilingual questionnaires in the 2010 Census. This section presents the demographic characteristics for these persons on the bilingual questionnaire. Table 11 gives bilingual person demographic characteristics: age, Hispanic origin, race, relationship, and sex. Age was calculated based on the date of birth provided; if no date of birth was provided, then the write-in age was used. Age was calculated only if the date of birth fell within valid date ranges. Similarly, the calculated age or write-in age was used only if it fell within valid age ranges; otherwise it was considered missing. Table 11 also gives the distribution of tenure responses for HUs included in the bilingual operation.

Because the demographic data used in this assessment are unedited, direct comparisons with published 2010 Census results are not possible. These tables include a row for people with missing values for the specific characteristic. The data in published Census reports have undergone editing and imputation, and therefore will have no missing values.

Table 10. Standard Assessment Demographic Table

Demographic Item	Number	Percent
Age	22,874,796	100.0
Under 5 years	1,753,899	7.7
5 to 9 years	1,695,422	7.4
10 to 14 years	1,724,623	7.5
15 to 19 years	1,798,113	7.9
20 to 24 years	1,675,222	7.3
25 to 29 years	1,673,934	7.3
30 to 34 years	1,591,737	7.0
35 to 39 years	1,568,028	6.9
40 to 44 years	1,541,783	6.7
45 to 49 years	1,550,269	6.8
50 to 54 years	1,443,525	6.3
55 to 59 years	1,242,793	5.4
60 to 64 years	1,018,575	4.5
65+ years	2,375,078	10.4
Missing	221,795	1.0
Hispanic Origin*	22,548,079	100.0
Not Hispanic or Latino checkbox only	7,341,386	32.6
Mexican checkbox only	8,566,655	38.0
Puerto Rican checkbox only	799,525	3.6
Cuban checkbox only	719,285	3.2
Another Hispanic checkbox only	272,129	1.2
Multiple checkboxes	82,594	0.4

Both Checkbox and Write-in	2,950,461	13.1
Write-in Only	935,055	4.2
Missing	880,989	3.9
Race*	22,548,079	100.0
White checkbox alone	11,670,153	51.8
Black or African American checkbox alone	2,118,361	9.4
American Indian and Alaska Native checkbox alone	77,239	0.3
Asian Indian checkbox alone	102,223	0.5
Chinese checkbox alone	233,266	1.0
Filipino checkbox alone	300,554	1.3
Japanese checkbox alone	39,474	0.2
Korean checkbox alone	94,096	0.4
Vietnamese checkbox alone	204,092	0.9
Other Asian checkbox alone	8,744	<0.1
Native Hawaiian checkbox alone	3,509	<0.1
Guamanian or Chamorro checkbox alone	5,135	<0.1
Samoan checkbox alone	8,853	<0.1
Other Pacific Islander checkbox alone	3,097	<0.1
Some Other Race checkbox alone	23,907	0.1
Multiple Checkboxes	550,463	2.4
Both Checkbox and Write-in	2,491,542	11.1
Write-in Only	1,731,504	7.7
Missing	2,881,867	12.8
Relationship	22,874,796	100.0
Householder	7,096,913	31.0
Husband or Wife of Householder	3,394,214	14.8
Biological Son or Daughter of Householder	7,004,557	30.6
Adopted Son or Daughter of Householder	146,254	0.6
Stepson or Stepdaughter of Householder	317,856	1.4
Brother or Sister of Householder	457,145	2.0
Father or Mother of Householder	419,533	1.8
Grandchild of Householder	902,810	4.0
Parent-in-law of Householder	145,962	0.6
Son-in-law or Daughter-in-law of Householder	222,957	1.0
Other Relative	644,771	2.8
Roomer or Boarder	257,652	1.1
Housemate or Roommate	344,011	1.5
Unmarried Partner	576,855	2.5
Other Nonrelative	292,019	1.3
Yes Related (persons 9+)	212,650	0.9

Not Related (persons 9+)	57,919	0.3
Two or more relationships	94,994	0.4
Missing	285,724	1.3
Sex	22,874,796	100.0
Male	10,874,533	47.5
Female	11,305,405	49.4
Both	11,824	0.1
Missing	683,034	3.0
Tenure	7,110,421	100.0
Owned with a mortgage or a loan	2,553,286	35.9
Owned without a mortgage or a loan	1,039,686	14.6
Rented	3,041,078	42.8
Occupied without payment of rent	112,663	1.6
Multiple	26,984	0.4
Missing	336,724	4.7

Source: 2010 Decennial Response File

*Hispanic Origin and Race exclude persons 9+ because these questions were not asked of them.

Attachment A - 2010 Census Bilingual Questionnaire

See attached pdf file.

Attachment B - 2010 Census Mailout/Mailback English Questionnaire

See attached pdf file.

Si no tiene el sobre con sello que se incluye para la devolución del cuestionario, por favor, envíe por correo su cuestionario completado a:

U.S. Census Bureau
National Processing Center
1201 East 10th Street
Jeffersonville, IN 47132

¿NECESITA AYUDA? Si usted necesita ayuda para completar este cuestionario, llame al 1-866-928-2010 entre las 8:00 a.m. y 9:00 p.m., 7 días a la semana. La llamada telefónica es gratis.

TDD — Aparato telefónico para personas con impedimentos auditivos. Llame al 1-866-783-2010 entre las 8:00 a.m. y 9:00 p.m., 7 días a la semana. La llamada telefónica es gratis.

La Oficina del Censo estima que al hogar típico le tomará aproximadamente 10 minutos completar este cuestionario, incluyendo el tiempo que toma para revisar las instrucciones y respuestas. Los comentarios sobre el estimado del tiempo o cualquier otro aspecto relacionado deben dirigirse a: Paperwork Project 0607-0919-C, U.S. Census Bureau, AMSD-3K138, 4600 Silver Hill Road, Washington, DC 20233. Puede enviar comentarios por correo electrónico a <Paperwork@census.gov>; utilice "Paperwork Project 0607-0919-C" como tema. No se requiere que las personas respondan a ninguna recopilación de información a menos que ésta tenga un número de aprobación válido de la Oficina de Administración y Presupuesto.

If your enclosed postage-paid envelope is missing, please mail your completed form to:

U.S. Census Bureau
National Processing Center
1201 East 10th Street
Jeffersonville, IN 47132

If you need help completing this form, call 1-866-872-6868 between 8:00 a.m. and 9:00 p.m., 7 days a week. The telephone call is free.

TDD — Telephone display device for the hearing impaired. Call 1-866-783-2010 between 8:00 a.m. and 9:00 pm. 7 days a week. The telephone call is free.

The U.S. Census Bureau estimates that, for the average household, this form will take about 10 minutes to complete, including the time for reviewing the instructions and answers. Send comments regarding this burden estimate or any other aspect of this burden to: Paperwork Reduction Project 0607-0919-C, U.S. Census Bureau, AMSD-3K138, 4600 Silver Hill Road, Washington, DC 20233. You may e-mail comments to <Paperwork@census.gov>; use "Paperwork Project 0607-0919-C" as the subject.

Respondents are not required to respond to any information collection unless it displays a valid approval number from the Office of Management and Budget.



U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

This is your official U.S. Census form. It is quick, easy, and your answers are protected by law. Please complete your form in the language most comfortable for you and return it today.

Start here

Use a blue or black pen.

The Census must count every person living in the United States on April 1, 2010.

Before you answer Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

- Count all people, including babies, who live and sleep here most of the time.

The Census Bureau also conducts counts in institutions and other places, so:

- Do not count anyone living away either at college or in the Armed Forces.
- Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010.
- Leave these people off your form, even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they may be counted twice.

The Census must also include people without a permanent place to stay, so:

- If someone who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?

Number of people =

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1?

Mark all that apply.

- Children, such as newborn babies or foster children
- Relatives, such as adult children, cousins, or in-laws
- Nonrelatives, such as roommates or live-in baby sitters
- People staying here temporarily
- No additional people

3. Is this house, apartment, or mobile home —

Mark ONE box.

- Owned by you or someone in this household with a mortgage or loan? Include home equity loans.
- Owned by you or someone in this household free and clear (without a mortgage or loan)?
- Rented?
- Occupied without payment of rent?

4. What is your telephone number? We may call if we don't understand an answer.

Area Code + Number

- -



DEPARTAMENTO DE COMERCIO DE LOS EE.UU.
Administración de Economía y Estadísticas
OFICINA DEL CENSO DE LOS EE.UU.

Éste es su cuestionario oficial del Censo de los EE.UU. Es fácil, rápido de contestar y sus respuestas están protegidas por ley. Por favor, complete su cuestionario en el idioma que le sea más cómodo y devuélvalo por correo hoy.

Comience aquí

Use un bolígrafo de tinta azul o negra.

El Censo tiene que contar a cada persona que vive en los Estados Unidos el 1 de abril de 2010.

Antes de contestar la Pregunta 1, cuente a las personas que viven en esta casa, apartamento o casa móvil usando nuestras instrucciones.

- Cuente a todas las personas, incluyendo a bebés, que viven y duermen aquí la mayor parte del tiempo.

La Oficina del Censo también lleva a cabo recuentos en instituciones y otros lugares, por lo tanto:

- No cuente a alguien que no vive aquí por estar en la universidad o en las Fuerzas Armadas.
- No cuente a alguien que está en un hogar de convalecencia, cárcel, prisión, centro de detención, etc., el 1 de abril de 2010.
- No incluya a estas personas en su cuestionario, aunque vuelvan a vivir aquí después de salir de la universidad, hogar de convalecencia, ejército, cárcel, etc. De otra manera, serán contadas dos veces.

El Censo también tiene que incluir a las personas sin un lugar permanente donde quedarse, por lo tanto:

- Si alguien sin un lugar permanente donde quedarse se está quedando aquí el 1 de abril de 2010, cuente a esa persona. De lo contrario, puede que no sea contada en el censo.

1. ¿Cuántas personas vivían o se quedaban en esta casa, apartamento o casa móvil el 1 de abril de 2010?

Número de personas =

2. ¿Había personas adicionales quedándose aquí el 1 de abril de 2010 que usted no incluyó en la Pregunta 1?

Marque todas las que apliquen.

- Niños, tales como bebés recién nacidos o hijos de crianza (foster)
- Parientes, tales como hijos adultos, primos o parientes políticos
- Personas que no son parientes, tales como compañeros de cuarto o niñeras que viven en el hogar
- Personas que se quedan aquí temporalmente
- No hay personas adicionales

3. ¿Es esta casa, apartamento o casa móvil —

Marque UNA casilla.

- Propiedad suya o de alguien en este hogar con una hipoteca o préstamo? Incluya los préstamos sobre el valor líquido de la casa.
- Propiedad suya o de alguien en este hogar libre y sin deuda (sin una hipoteca o préstamo)?
- Alquilado(a)?
- Ocupado(a) sin pago de alquiler?

4. ¿Cuál es su número de teléfono? Puede que lo llamemos si no entendemos una respuesta.

Código de Área + Número

- -



Use this section to complete information for the rest of the people you counted in Question 1 on the front page. We may call for additional information about them.

Person 9

Last Name, First Name, MI, Sex, Age on April 1, 2010, Date of Birth, Related to Person 1?

Person 10

Last Name, First Name, MI, Sex, Age on April 1, 2010, Date of Birth, Related to Person 1?

Person 11

Last Name, First Name, MI, Sex, Age on April 1, 2010, Date of Birth, Related to Person 1?

Person 12

Last Name, First Name, MI, Sex, Age on April 1, 2010, Date of Birth, Related to Person 1?

Use esta sección para completar la información sobre el resto de las personas que usted contó en la Pregunta 1 en la primera página. Puede que lo llamemos para obtener información adicional sobre ellas.

Persona 9

Apellido, Nombre, Inicial, Sexo, Edad el 1 de abril de 2010, Fecha de nacimiento, ¿Está relacionado(a) con la Persona 1?

Persona 10

Apellido, Nombre, Inicial, Sexo, Edad el 1 de abril de 2010, Fecha de nacimiento, ¿Está relacionado(a) con la Persona 1?

Persona 11

Apellido, Nombre, Inicial, Sexo, Edad el 1 de abril de 2010, Fecha de nacimiento, ¿Está relacionado(a) con la Persona 1?

Persona 12

Apellido, Nombre, Inicial, Sexo, Edad el 1 de abril de 2010, Fecha de nacimiento, ¿Está relacionado(a) con la Persona 1?

1. Print name of Person 2

Last Name, First Name, MI

2. How is this person related to Person 1? Mark ONE box.

- Husband or wife, Biological son or daughter, Adopted son or daughter, Stepson or stepdaughter, Brother or sister, Father or mother, Grandchild, Parent-in-law, Son-in-law or daughter-in-law, Other relative, Roomer or boarder, Housemate or roommate, Unmarried partner, Other nonrelative

3. What is this person's sex? Mark ONE box.

- Male, Female

4. What is this person's age and what is this person's date of birth?

Age on April 1, 2010, Month, Day, Year of birth

NOTE: Please answer BOTH Question 5 about Hispanic origin and Question 6 about race. For this census, Hispanic origins are not races.

5. Is this person of Hispanic, Latino, or Spanish origin?

- No, not of Hispanic, Latino, or Spanish origin; Yes, Mexican, Mexican Am., Chicano; Yes, Puerto Rican; Yes, Cuban; Yes, another Hispanic, Latino, or Spanish origin

6. What is this person's race? Mark one or more boxes.

- White, Black, African Am., or Negro, American Indian or Alaska Native

- Asian Indian, Chinese, Filipino, Other Asian, Japanese, Korean, Vietnamese, Native Hawaiian, Guamanian or Chamorro, Samoan, Other Pacific Islander

- Some other race

7. Does this person sometimes live or stay somewhere else?

- No, Yes, In college housing, In the military, At a seasonal or second residence, For child custody, In jail or prison, In a nursing home, For another reason

If more people live here, continue with Person 3.

1. Escriba el nombre de la Persona 2

Apellido, Nombre, Inicial

2. ¿Cómo está esta persona relacionada con la Persona 1? Marque UNA.

- Esposo(a), Hijo(a) biológico(a), Hijo(a) adoptivo(a), Hijastro(a), Hermano(a), Padre o madre, Nieto(a), Suegro(a), Yerno o nuera, Otro pariente, Inquilino(a) o pupilo(a), Compañero(a) de casa o de cuarto, Pareja no casada, Otro no pariente

3. ¿Cuál es el sexo de esta persona? Marque UNA casilla.

- Masculino, Femenino

4. ¿Cuál es la edad de esta persona y cuál es su fecha de nacimiento?

Edad el 1 de abril de 2010, Mes, Día, Año de nacimiento

NOTA: Por favor, conteste la Pregunta 5 sobre origen hispano Y la Pregunta 6 sobre raza. Para este censo, origen hispano no es una raza.

5. ¿Es esta persona de origen hispano, latino o español?

- No, no es de origen hispano, latino o español; Sí, mexicano, mexicano americano, chicano; Sí, puertorriqueño; Sí, cubano; Sí, otro origen hispano, latino o español

6. ¿Cuál es la raza de esta persona? Marque una o más casillas.

- Blanca, Negra o africana americana, India americana o nativa de Alaska

- India asiática, China, Filipina, Otra asiática, Japonesa, Coreana, Vietnamita, Nativa de Hawaii, Guameña o Chamorro, Samoana, Otra de las islas del Pacífico

- Alguna otra raza

7. ¿Vive o se queda a veces esta persona en algún otro lugar?

- No, Sí, En vivienda universitaria, En el servicio militar, En vivienda de temporada o segunda residencia, Por custodia de niños, En la cárcel o prisión, En un hogar de convalecencia o segunda residencia, Por alguna otra razón

Si más personas viven aquí, continúe con la Persona 3.



1. Print name of Person 3

Last Name

First Name MI

2. How is this person related to Person 1? Mark ONE box.

Husband or wife Parent-in-law
 Biological son or daughter Son-in-law or daughter-in-law
 Adopted son or daughter Other relative
 Stepson or stepdaughter Roomer or boarder
 Brother or sister Housemate or roommate
 Father or mother Unmarried partner
 Grandchild Other nonrelative

3. What is this person's sex? Mark ONE box.

Male Female

4. What is this person's age and what is this person's date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010 Month Day Year of birth

→ **NOTE: Please answer BOTH Question 5 about Hispanic origin and Question 6 about race. For this census, Hispanic origins are not races.**

5. Is this person of Hispanic, Latino, or Spanish origin?

No, not of Hispanic, Latino, or Spanish origin
 Yes, Mexican, Mexican Am., Chicano
 Yes, Puerto Rican
 Yes, Cuban
 Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

6. What is this person's race? Mark one or more boxes.

White
 Black, African Am., or Negro
 American Indian or Alaska Native — *Print name of enrolled or principal tribe.*

Asian Indian Japanese Native Hawaiian
 Chinese Korean Guamanian or Chamorro
 Filipino Vietnamese Samoan
 Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.* Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*

Some other race — *Print race.*

7. Does this person sometimes live or stay somewhere else?

No Yes — *Mark all that apply.*

In college housing For child custody
 In the military In jail or prison
 At a seasonal or second residence In a nursing home
 For another reason

→ **If more people live here, continue with Person 4.**



1. Escriba el nombre de la Persona 3

Apellido

Nombre Inicial

2. ¿Cómo está esta persona relacionada con la Persona 1? Marque UNA.

Espos(a) Suegro(a)
 Hijo(a) biológico(a) Yerno o nuera
 Hijo(a) adoptivo(a) Otro pariente
 Hijastro(a) Inquilino(a) o pupilo(a)
 Hermano(a) Compañero(a) de casa o de cuarto
 Padre o madre Pareja no casada
 Nieto(a) Otro no pariente

3. ¿Cuál es el sexo de esta persona? Marque UNA casilla.

Masculino Femenino

4. ¿Cuál es la edad de esta persona y cuál es su fecha de nacimiento?
Escriba 0 para los bebés que tengan menos de 1 año de edad.
Escriba los números en las casillas.

Edad el 1 de abril de 2010 Mes Día Año de nacimiento

→ **NOTA: Por favor, conteste la Pregunta 5 sobre origen hispano Y la Pregunta 6 sobre raza. Para este censo, origen hispano no es una raza.**

5. ¿Es esta persona de origen hispano, latino o español?

No, no es de origen hispano, latino o español
 Sí, mexicano, mexicano americano, chicano
 Sí, puertorriqueño
 Sí, cubano
 Sí, otro origen hispano, latino o español — *Escriba el origen, por ejemplo, argentino, colombiano, dominicano, nicaraguense, salvadoreño, español, etc.*

6. ¿Cuál es la raza de esta persona? Marque una o más casillas.

Blanca
 Negra o africana americana
 India americana o nativa de Alaska — *Escriba el nombre de la tribu en la que está inscrita o la tribu principal.*

India asiática Japonesa Nativa de Hawaii
 China Coreana Guameña o Chamorro
 Filipina Vietnamita Samoana
 Otra asiática — *Escriba la raza, por ejemplo, hmong, laosiana, tailandesa, paquistaní, camboyana, etc.* Otra de las islas del Pacífico — *Escriba la raza, por ejemplo, fiyiana, tongana, etc.*

Alguna otra raza — *Escriba la raza.*

7. ¿Vive o se queda a veces esta persona en algún otro lugar?

No Sí — *Marque todas las que apliquen.*

En vivienda universitaria Por custodia de niños
 En el servicio militar En la cárcel o prisión
 En vivienda de temporada o segunda residencia En un hogar de convalecencia
 Por alguna otra razón

→ **Si más personas viven aquí, continúe con la Persona 4.**

1. Print name of Person 8

Last Name

First Name MI

2. How is this person related to Person 1? Mark ONE box.

Husband or wife Parent-in-law
 Biological son or daughter Son-in-law or daughter-in-law
 Adopted son or daughter Other relative
 Stepson or stepdaughter Roomer or boarder
 Brother or sister Housemate or roommate
 Father or mother Unmarried partner
 Grandchild Other nonrelative

3. What is this person's sex? Mark ONE box.

Male Female

4. What is this person's age and what is this person's date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010 Month Day Year of birth

→ **NOTE: Please answer BOTH Question 5 about Hispanic origin and Question 6 about race. For this census, Hispanic origins are not races.**

5. Is this person of Hispanic, Latino, or Spanish origin?

No, not of Hispanic, Latino, or Spanish origin
 Yes, Mexican, Mexican Am., Chicano
 Yes, Puerto Rican
 Yes, Cuban
 Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

6. What is this person's race? Mark one or more boxes.

White
 Black, African Am., or Negro
 American Indian or Alaska Native — *Print name of enrolled or principal tribe.*

Asian Indian Japanese Native Hawaiian
 Chinese Korean Guamanian or Chamorro
 Filipino Vietnamese Samoan
 Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.* Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*

Some other race — *Print race.*

7. Does this person sometimes live or stay somewhere else?

No Yes — *Mark all that apply.*

In college housing For child custody
 In the military In jail or prison
 At a seasonal or second residence In a nursing home
 For another reason

→ **If more people live here, continue with Person 9.**



1. Escriba el nombre de la Persona 8

Apellido

Nombre Inicial

2. ¿Cómo está esta persona relacionada con la Persona 1? Marque UNA.

Espos(a) Suegro(a)
 Hijo(a) biológico(a) Yerno o nuera
 Hijo(a) adoptivo(a) Otro pariente
 Hijastro(a) Inquilino(a) o pupilo(a)
 Hermano(a) Compañero(a) de casa o de cuarto
 Padre o madre Pareja no casada
 Nieto(a) Otro no pariente

3. ¿Cuál es el sexo de esta persona? Marque UNA casilla.

Masculino Femenino

4. ¿Cuál es la edad de esta persona y cuál es su fecha de nacimiento?
Escriba 0 para los bebés que tengan menos de 1 año de edad.
Escriba los números en las casillas.

Edad el 1 de abril de 2010 Mes Día Año de nacimiento

→ **NOTA: Por favor, conteste la Pregunta 5 sobre origen hispano Y la Pregunta 6 sobre raza. Para este censo, origen hispano no es una raza.**

5. ¿Es esta persona de origen hispano, latino o español?

No, no es de origen hispano, latino o español
 Sí, mexicano, mexicano americano, chicano
 Sí, puertorriqueño
 Sí, cubano
 Sí, otro origen hispano, latino o español — *Escriba el origen, por ejemplo, argentino, colombiano, dominicano, nicaraguense, salvadoreño, español, etc.*

6. ¿Cuál es la raza de esta persona? Marque una o más casillas.

Blanca
 Negra o africana americana
 India americana o nativa de Alaska — *Escriba el nombre de la tribu en la que está inscrita o la tribu principal.*

India asiática Japonesa Nativa de Hawaii
 China Coreana Guameña o Chamorro
 Filipina Vietnamita Samoana
 Otra asiática — *Escriba la raza, por ejemplo, hmong, laosiana, tailandesa, paquistaní, camboyana, etc.* Otra de las islas del Pacífico — *Escriba la raza, por ejemplo, fiyiana, tongana, etc.*

Alguna otra raza — *Escriba la raza.*

7. ¿Vive o se queda a veces esta persona en algún otro lugar?

No Sí — *Marque todas las que apliquen.*

En vivienda universitaria Por custodia de niños
 En el servicio militar En la cárcel o prisión
 En vivienda de temporada o segunda residencia En un hogar de convalecencia
 Por alguna otra razón

→ **Si más personas viven aquí, continúe con la Persona 9.**

Use this section to complete information for the rest of the people you counted in Question 1 on the front page. We may call for additional information about them.

Person 7 Last Name First Name MI

Sex Age on April 1, 2010 Date of Birth Related to Person 1?

Male Female

Person 8 Last Name First Name MI

Sex Age on April 1, 2010 Date of Birth Related to Person 1?

Male Female

Person 9 Last Name First Name MI

Sex Age on April 1, 2010 Date of Birth Related to Person 1?

Male Female

Person 10 Last Name First Name MI

Sex Age on April 1, 2010 Date of Birth Related to Person 1?

Male Female

Person 11 Last Name First Name MI

Sex Age on April 1, 2010 Date of Birth Related to Person 1?

Male Female

Person 12 Last Name First Name MI

Sex Age on April 1, 2010 Date of Birth Related to Person 1?

Male Female

Thank you for completing your official 2010 Census form.

FOR OFFICIAL USE ONLY

JIC1 JIC2

If your enclosed postage-paid envelope is missing, please mail your completed form to:

U.S. Census Bureau National Processing Center 1201 East 10th Street Jeffersonville, IN 47132

If you need help completing this form, call 1-866-872-6868 between 8:00 a.m. and 9:00 p.m., 7 days a week. The telephone call is free.

TDD — Telephone display device for the hearing impaired. Call 1-866-783-2010 between 8:00 a.m. and 9:00 p.m., 7 days a week. The telephone call is free.

¿NECESITA AYUDA? Si usted necesita ayuda para completar este cuestionario, llame al 1-866-928-2010 entre las 8:00 a.m. y 9:00 p.m., 7 días a la semana. La llamada telefónica es gratis.

The U.S. Census Bureau estimates that, for the average household, this form will take about 10 minutes to complete, including the time for reviewing the instructions and answers. Send comments regarding this burden estimate or any other aspect of this burden to: Paperwork Reduction Project 0607-0919-C, U.S. Census Bureau, AMSD-3K138, 4600 Silver Hill Road, Washington, DC 20233. You may e-mail comments to <Paperwork@census.gov>; use "Paperwork Project 0607-0919-C" as the subject.

Respondents are not required to respond to any information collection unless it displays a valid approval number from the Office of Management and Budget.



United States Census 2010

This is the official form for all the people at this address. It is quick and easy, and your answers are protected by law.

U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. CENSUS BUREAU

Use a blue or black pen.

Start here

The Census must count every person living in the United States on April 1, 2010.

Before you answer Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

Count all people, including babies, who live and sleep here most of the time.

The Census Bureau also conducts counts in institutions and other places, so:

- Do not count anyone living away either at college or in the Armed Forces. Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010. Leave these people off your form, even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they may be counted twice.

The Census must also include people without a permanent place to stay, so:

- If someone who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?

Number of people =

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? Mark X all that apply.

- Children, such as newborn babies or foster children. Relatives, such as adult children, cousins, or in-laws. Nonrelatives, such as roommates or live-in baby sitters. People staying here temporarily. No additional people.

3. Is this house, apartment, or mobile home — Mark X ONE box.

- Owned by you or someone in this household with a mortgage or loan? Include home equity loans. Owned by you or someone in this household free and clear (without a mortgage or loan)? Rented? Occupied without payment of rent?

4. What is your telephone number? We may call if we don't understand an answer.

Area Code + Number

OMB No. 0607-0919-C: Approval Expires 12/31/2011.

Form D-1 (12-5-2008)

U.S. CENSUS BUREAU

5. Please provide information for each person living here. Start with a person living here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1.

What is Person 1's name? Print name below.

Last Name

First Name MI

6. What is Person 1's sex? Mark X ONE box.

Male Female

7. What is Person 1's age and what is Person 1's date of birth? Please report babies as age 0 when the child is less than 1 year old. Print numbers in boxes.

Age on April 1, 2010 Month Day Year of birth

NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

- No, not of Hispanic, Latino, or Spanish origin. Yes, Mexican, Mexican Am., Chicano. Yes, Puerto Rican. Yes, Cuban. Yes, another Hispanic, Latino, or Spanish origin — Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.

9. What is Person 1's race? Mark X one or more boxes.

- White. Black, African Am., or Negro. American Indian or Alaska Native — Print name of enrolled or principal tribe. Asian Indian. Japanese. Native Hawaiian. Chinese. Korean. Guamanian or Chamorro. Filipino. Vietnamese. Samoan. Other Asian — Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on. Other Pacific Islander — Print race, for example, Fijian, Tongan, and so on.

Some other race — Print race.

10. Does Person 1 sometimes live or stay somewhere else?

- No. Yes — Mark X all that apply. In college housing. For child custody. In the military. In jail or prison. At a seasonal or second residence. In a nursing home. For another reason.

If more people were counted in Question 1, continue with Person 2.

