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## Citizenship Question Effects on Household Survey Response

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DISCUSSION PAPER SERIES

IZA DP No. 17073

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JUNE 2024

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# Citizenship Question Effects on Household Survey Response

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JUNE 2024

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## ABSTRACT

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# Citizenship Question Effects on Household Survey Response<sup>1</sup>

Several small-sample studies have predicted that a citizenship question in the 2020 Census would cause a large drop in self-response rates. In contrast, minimal effects were found in Poehler et al.'s (2020) analysis of the 2019 Census Test randomized controlled trial (RCT). We reconcile these findings by analyzing associations between characteristics about the addresses in the 2019 Census Test and their response behavior by linking to independently constructed administrative data. We find significant heterogeneity in sensitivity to the citizenship question among households containing Hispanics, naturalized citizens, and noncitizens. Response drops the most for households containing noncitizens ineligible for a Social Security number (SSN). It falls more for households with Latin American-born immigrants than those with immigrants from other countries. Response drops less for households with U.S.-born Hispanics than households with noncitizens from Latin America. Reductions in responsiveness occur not only through lower unit self-response rates, but also by increased household roster omissions and internet break-offs. The inclusion of a citizenship question increases the undercount of households with noncitizens. Households with noncitizens also have much higher citizenship question item nonresponse rates than those only containing citizens. The use of tract-level characteristics and significant heterogeneity among Hispanics, the foreign-born, and noncitizens help explain why the effects found by Poehler et al. were so small. Linking administrative microdata with the RCT data expands what we can learn from the RCT.

**JEL Classification:** C83, C93, J11, J15

**Keywords:** administrative records, noncitizen coverage, sensitive questions, survey error

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<sup>1</sup> Any opinions and conclusions expressed herein are those of the authors and do not represent the views of the U.S. Census Bureau. The Census Bureau has ensured appropriate access and use of confidential data and has reviewed these results for disclosure avoidance protection (Project 7516814: CBDRB-FY24-CES019-008). We thank Lindsay Longsine and Gregory Mills for providing the 2019 Census Test paradata.

## Introduction

Adding a potentially sensitive question to a survey or census questionnaire can affect responsiveness of some demographic groups more than others if sensitivity varies by group. If the people most affected are already poorly covered, differential undercounts could increase.<sup>2</sup> This is particularly relevant in a population census where relative coverage determines political representation and government funding of the communities where they reside. While a citizenship question was not included in the 2020 Census questionnaire,<sup>3</sup> it is on the American Community Survey (ACS), Current Population Survey (CPS), and Survey of Income and Program Participation (SIPP), and it is being considered by Congress for inclusion in future decennial censuses, so the impact of the question on data quality remains relevant.<sup>4</sup>

In 2019, the Census Bureau conducted a large-scale randomized controlled trial (RCT) replicating the 2020 Census. This 2019 Census Test lacked detailed information on sample addresses with no response, however. We plug that gap by linking independently-collected administrative records (AR) containing detailed characteristics on sample addresses to explore whether the substantial heterogeneity in citizenship question effects across demographic groups found in smaller studies is also present in this large-scale test. Our demographic categories span the full range of likely sensitivity to the question, from all-U.S.-born non-Hispanic White households to those containing noncitizens with unknown legal status. We study

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<sup>2</sup> Tourangeau and Yan (2007) review research on reporting errors in surveys on sensitive topics.

<sup>3</sup> Commerce Secretary Ross announced on March 26, 2018 that a citizenship question would be included in the 2020 Census questionnaire. On June 27, 2019, the U.S. Supreme Court ruled in *Department of Commerce v. New York* that Secretary Ross's decision violated the Administrative Procedure Act. On July 2, 2019, Secretary Ross announced that a citizenship question would not be included in the 2020 Census.

<sup>4</sup> The Equal Representation Act (H.R. 7109) passed by the U.S. House of Representatives on May 8, 2024, would add a citizenship question to future decennial censuses.

associations between these characteristics and unit self-response, household roster omissions, and internet break-offs (exiting the internet instrument before answering all questions) in the panels with and without the citizenship question. We also examine citizenship item nonresponse when the question is included. Differences in effects when using household- compared to tract-level characteristics are shown. We also investigate 2016-2019 ACS self-response rates by demographic groups for any trends prior to the 2019 Census Test.

## **Background**

Several recent studies suggest that the inclusion of a citizenship question on a survey questionnaire sharply reduces willingness to participate among Hispanics, the foreign-born, and noncitizens (Barreto 2018, Baum et al. 2022, Bernhardt and Wunnava 2023, Brown et al. 2019, Evans et al. 2019, and Walejko et al. 2021). Bernhard and Wunnava (2023) found a 20 to 40 percentage point increase in refusals in the Current Population Survey (CPS) when a citizenship question was added in 1994, with higher increases in states containing more Hispanics and noncitizens. In Barreto's (2018) survey, 14.1 percent of Latinos and 5.5 percent of Whites who said they were willing to respond to the 2020 Census without a citizenship were unwilling to do so if it included a citizenship question. Using the 2018 Census Barriers, Attitudes, and Motivators Study (CBAMS) survey, Walejko et al. (2021) reported that the share of people who said they were likely to respond to the 2020 Census fell by 20 percent after the March 2018 decision to include a citizenship question on the 2020 Census, and the decline was larger for Hispanics (9.1 percentage points), foreign-born (8.6 percentage points), those not speaking English well (15.8 percentage points), and those responding in Spanish (15.2 percentage points). Kissam et al.'s (2019) survey found that undocumented immigrants would be 55 percentage

points less likely to participate in the 2020 Census if it included a citizenship question. In contrast, Poehler et al.'s (2020) analysis of the 2019 Census Test showed no citizenship question effects greater than 1.3 percentage points for addresses in any of the types of tracts they analyzed.

There are several possible reasons for differences across the recent studies. The 2019 Census Test used the same mailing materials, paper questionnaire, and internet instrument as the 2020 Census. It randomly included a citizenship question for half of the sample. The RCT, conducted by the Census Bureau, had a collection period that ended just 7 months before the 2020 Census self-response operation started. A sample of 480,000 housing units was randomly drawn to be representative of the U.S. population.

The other studies are less like the 2020 Census. The Barreto (2018), Kissam et al. (2019), and Baum et al. (2022) surveys were conducted by other survey organizations. Bernhardt and Wunnava's (2023) study used the CPS, which has a much longer questionnaire, and they looked at behavior in 1994, 26 years before 2020. Brown et al. (2019) compared ACS (with a citizenship question) and 2010 Census (without a citizenship question) unit self-response rates for addresses in both the 2010 ACS sample and the 2010 Census. Like the CPS, the ACS contains many more questions than the decennial census, so there could be other reasons for lower self-response than just the presence of a citizenship question. The 2018 CBAMS focus group study (Evans et al. 2019) and the Kissam et al. (2019) survey were not representative of the entire population. The former prioritized hard-to-count groups, and the latter targeted Mexican immigrants, a group highly likely to be sensitive to the citizenship question.

The Barreto (2018), Baum et al. (2022), CBAMS survey and focus group studies, and Kissam et al. (2019) asked people whether they were likely to participate in the 2020 Census, a future action. People might have acted differently when receiving the actual 2020 Census materials. Datta et al. (2012) found that intent to participate in the future is a noisy indicator of actual behavior, based on a comparison of people's intentions to respond to the 2010 Census and their actual self-response rates. People participating in the studies may differ systematically from those declining to participate.<sup>5</sup> With the exception of Barreto (2018), the participants in these studies were paid, unlike in the 2020 Census or the 2019 Census Test.

An important factor influencing whether significant effects could be found in the 2019 Census Test is how widespread sensitivity is. When a citizenship question is present, some individuals may avoid responding out of fear for their personal safety. People without such a fear may also decline to respond as an expression of opposition to the question. If there is little protest activity, then the citizenship question effects may be concentrated in the small group fearing for their safety. Evans et al. (2019) found that inclusion of a citizenship question would not likely affect the 2020 Census participation of most U.S. citizens, but that it would be detrimental for recent immigrants, especially those without legal status. Latin American-born (LA-born) immigrants would be affected more than other groups, possibly because they are perceived as more likely to be undocumented.

Kissam et al. (2019) also found much greater citizenship question sensitivity among undocumented immigrants than legal noncitizens or naturalized U.S. citizens. Effects were

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<sup>5</sup> Barreto's (2018) and the CBAMS survey response rates were 28.1 and 39.4 percent, respectively.



strong among people of Mexican or Central American origin, but weak or non-existent among U.S.-born Hispanics or people from Puerto Rico or Cuba in Baum et al.'s (2022) survey. Poehler et al. (2020) divided households into groups using the 2019 Census Test response data and tract-level demographic variables from the 2012-2016 American Community Survey (ACS). Their measures may be too coarse to identify which kinds of households are sensitive to the question.<sup>6</sup>

The 2019 Census Test conditions differed from the 2020 Census in important ways. Unlike the 2020 Census, the 2019 Census Test was not accompanied by paid advertising, partnership outreach programs, or significant news coverage, which encourage self-response, especially by internet.<sup>7</sup> To our knowledge, opponents of the citizenship question did not discourage participation in the RCT, while such an effort may have occurred during the 2020 Census had the question remained on the questionnaire. The decision to include a citizenship question was reversed while the RCT was in the field, which could have dampened any protest activity.

Response avoidance behavior can occur not just through unit nonresponse, but also via household roster omissions and item nonresponse. Like with unit self-response, this varies by demographic group. Some CBAMS focus group participants noted that they would not include noncitizen household members in their responses (Evans et al. 2019). Fewer household roster members were identified as being Hispanic, especially of Mexican or Central American origin,

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<sup>6</sup> For example, their high noncitizen category was tracts with more than 11.1 percent noncitizens, so many citizens are in the group.

<sup>7</sup> Pepe and Shia (2023) report that the 2020 Census self-response rate for housing units in the 2019 Census Test panel without a citizenship question was 60.0 percent within the first 64 days (the duration of the test), compared to 51.7 percent in the test, and the internet response rate increased by 14 percentage points.

when the questionnaire contains a citizenship question in Baum et al.'s (2022) survey, consistent with there being Hispanic member omissions. Citizenship question item nonresponse rates in the ACS were much higher for Asians and Hispanics than for Whites, and they were higher for foreign- than U.S.-born people (O'Hare, 2018). Responses to Baum et al.'s (2022) survey were much less complete among people of Mexican or Central American origin when a citizenship question is included. Poehler et al. (2020) studied internet break-off and item nonresponse differences with and without a citizenship question, but they did not analyze how the effects varied by household type. When the citizenship question was absent, 12.0 percent of people identified as Hispanic, compared to 11.4 percent when it was included.

Santos (2019) suggested that the March 2018 Department of Commerce decision to include a citizenship question may have caused people sensitive to the question to not respond to either questionnaire in the 2019 Census Test, effectively opting out of the RCT. If so, a higher share of responders to the questionnaire without the citizenship question would have responded to the questionnaire with the question too, and response rates would have been more similar across panels.

People sensitive to the citizenship question may be hard-to-count irrespective of any announcements to include or exclude the question. If most people in a group opted out of the 2019 Census Test, the test power for the diminished group would be weak. Finding citizenship question effects on household roster omissions and citizenship question item nonresponse would be even more difficult, as few people in groups sensitive to the citizenship question would progress to the response stages where they could omit people or skip the citizenship question.

## Data and Methods

The 2019 Census Test data are from a nationally representative random sample of 480,000 housing units. Tracts with high shares of noncitizens and low self-response rates were oversampled. The RCT mirrored the design of the 2020 Census self-response operation. Data collection occurred between June 13 and August 15, 2019, with a reference date of July 1, 2019. The 2020 Census' Internet First approach, where the first of the five mailings was a postcard with a link to the internet survey instrument, was used in tracts with higher broadband internet penetration. The Internet Choice approach was employed in tracts with lower broadband internet connectivity or with characteristics associated with a low probability of choosing to respond online, and it included a questionnaire and a link to the internet survey instrument in the first mailing.

Besides mail and internet response, Telephone Questionnaire Assistance (TQA) was available, where households could ask questions or receive assistance when encountering technical problems. Interviews were also accepted over the phone. Bilingual English and Spanish materials were sent to households in tracts with high shares of Spanish speakers. The internet instrument was also available in English and Spanish. The questionnaire was the same as in the 2020 Census, with the exception that the questionnaires for 240,000 of the housing units also contained a citizenship question. The respondent was asked basic demographic questions about each person in the household, with the citizenship question coming last. Importantly, the citizenship question appeared before the respondent was asked about the

second household member. One difference across modes was that people opening the paper questionnaire could immediately see that it contained a citizenship question, while those responding online or by phone would not see the question until they reached that point in the instrument. Poehler et al. (2020) provide further details about the RCT.

An important advantage of using AR to construct address characteristics is that they are not influenced by households' responsiveness to surveys or to a citizenship question, and information is available for both responding and nonresponding addresses. The AR come from the Census Bureau's 2019 Demographic Frame extract.<sup>8</sup> The data are of 2018 and 2019 vintages. Only records receiving a unique person identifier called a Protected Identification Key (PIK) are included. Only people with Social Security numbers (SSN) or Individual Taxpayer Identification Numbers (ITINs) can receive a PIK.<sup>9</sup> This means that noncitizens who are ineligible to receive an SSN and who do not file taxes are excluded. The data also include only people with AR addresses that can be linked to the Census Bureau's Master Address File (MAF) and assigned a Master Address File ID (MAFID). People with more than one MAFID in the 2019 Demographic Frame are assigned the MAFID with the highest person-place probability according to a random

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<sup>8</sup> Sources include Alaska Permanent Fund Division; Census Household Composition Key; Centers for Medicare and Medicaid Services Medicare Enrollment Database; Centers for Medicare and Medicaid Service Transformed Medicaid Statistical Information System (T-MSIS); Federal Housing Administration; Department of Housing and Urban Development Public and Indian Housing Information Center, Tenant Rental Assistance Certification System, and Computerized Homes Underwriting Management System; Internal Revenue Service (IRS) 1040, 1099, and 1099-R; Selective Service System (SSS) registration data; Social Security Administration (SSA) Master Beneficiary Record; SSA Supplemental Security Record and Special Veterans Benefits; Supplemental Nutrition Assistance Programs (SNAP); Women, Infants, and Children (WIC) programs; Temporary Assistance for Needy Families (TANF) programs; U.S. Postal Service National Change of Address (NCOA); and Veterans Service Group of Illinois (VSGI) third-party data.

<sup>9</sup> Brown et al. (2023b) find 4.5 million people in AR in 2020 without either an SSN or ITIN, most of whom are noncitizens. We do not have access to the sources or record linkage for the people in AR without SSNs or ITINs for this project. ITINs are nine-digit numbers in a publicly known range found in the SSN field of administrative records. They are issued by the Internal Revenue Service (IRS) to noncitizens needing to pay taxes, but who are ineligible for an SSN. National Immigration Law Center (2022) provides more details.

forest model predicting the likelihood that a given address is the person’s residence on July 1, 2019.<sup>10</sup>

Table 1 lists all variables used in the analysis. Unlike in past studies on unit self-response, we use variables measured at the housing-unit rather than a higher level of geography like Census tract.<sup>11</sup> All of the variables are considered hard-to-count or easy-to-count characteristics based on Erdman and Bates (2017) . The household-level variables related to race, ethnicity, nativity, citizenship, and immigration status are the variables of interest. The controls are “structural” variables. Researchers (e.g., Kissam and Robinson 2023) have argued that measured demographic characteristic associations with responsiveness may reflect the fact that some demographic groups have a greater propensity to live in conditions making them hard-to-count. We examine this by looking at the extent to which including the controls attenuates the effects of the demographic variables of interest.

Citizenship and place of birth for AR people with SSNs are from the Social Security Administration’s Numerical Identification File (Numident), containing all people issued an SSN. We distinguish LA-born from other foreign-born immigrants, because previous literature has found different response behavior for these groups, as discussed above. LA-born is defined here as being born in Belize, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, or Panama. The race and ethnicity of U.S.-born people in AR are from the Census Best Race File (Ennis et al. 2018). The Census Best Race File consolidates

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<sup>10</sup> Brown et al. (2023b) provide details about this model.

<sup>11</sup> Note, however, that though the internet choice and internet first crossed with English only and bilingual materials are housing-unit-level variables, they are the same for each housing unit in the tract in the sample. These are determined based on tract-level measures of internet connectivity and Spanish speaking.

information from administrative records, household survey data, past decennial census responses, and third-party data using a set of business rules. ITINs are identified by merging the AR PIKs to the list of ITIN PIKs. The previous literature discussed above suggests that households with noncitizens with unknown legal status such as ITIN holders are likely to be most sensitive to the citizenship question.

Table 2 reports an adjusted Wald test for whether the characteristic's shares in the sample with and without the citizenship question are statistically significantly different from one another. None of the differences are statistically significant at the 10 percent level, suggesting that the panels are balanced. Calculations using the numbers in the table indicate that 17.7 percent of housing units with any AR have at least one noncitizen, and 3.7 percent have at least one ITIN holder. Most of the households with a noncitizen also have at least one citizen, and those with at least one ITIN holder usually have at least one person with an SSN.

To provide context for the 2019 Census Test unit self-response rates and to see if there were any trends leading up to the RCT, we also report unit self-response rates from the ACS in 2016-2019. To categorize housing units in the initial ACS sample, we use AR from the same sources and race, ethnicity, nativity, citizenship, and immigration status using the same sources and methods as we do with the 2019 Census Test.

We study not only unit self-response in the 2019 Census Test, but also the completeness of the response data. One type is whether all household members are included. As mentioned above, Baum et al. (2022) tried to detect household roster omissions by comparing the share of people reported as being Hispanic in their panels with and without a citizenship question.

Poehler et al. (2020) studied the share of the people listed first on the household roster who were reported to be Hispanic. Neither study could distinguish between household roster omissions and reclassification of Hispanics as non-Hispanics. The Census Bureau normally conducts coverage follow-up interviews to evaluate household roster omissions (e.g., Kephart, et al. 2023). A drawback of follow-up interviews is correlation bias: respondents unwilling to initially provide information about a person may still be unwilling to do so in a follow-up interview. We instead use AR, which are collected independently of the RCT and do not rely on respondent willingness to respond. Our measure is the difference between the number of AR people minus the number of data-defined people, among households with at least one of each.<sup>12</sup> AR household population count errors should be independent of the presence of the citizenship question. Table 2 reports very similar AR household population count distributions in the panels with and without citizenship.

Our second household roster omission proxy is the difference between the respondent-reported population count and the number of data-defined people for internet responses with a reported population count of at least 2, and where no people are reported as usually living elsewhere. In such cases, a higher respondent-reported population count indicates that the respondent failed to provide information about some of the people included in their initial population count. We focus on internet responses here, because the respondent does not see all the internet questions until after being asked to provide the population count. In contrast respondents can see all the questions in a paper questionnaire before starting the response.

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<sup>12</sup> Data-defined people are person-level records with at least a minimum level of information, indicating an attempt to respond to the survey.

We look at break-offs (incomplete responses) in internet responses. We also divide internet responses into ones with a break-off somewhere other than at the citizenship question, a break-off at the citizenship question, no break-off but incomplete citizenship question item responses, and no break-off with complete citizenship question item responses. Break-offs at the citizenship question and citizenship question item nonresponse should be more clear evidence of sensitivity to the citizenship question than break-offs elsewhere in the internet instrument. The only incompleteness we analyze in mail responses is citizenship item nonresponse.

We estimate logistic, multinomial logistic, and Ordinary Least Squares (OLS) regressions, first showing results using only tract-level variables. We show the Low Response Score (LRS), proportion Hispanic, proportion foreign-born, and noncitizen share, as those are likely to be most closely associated with citizenship question sensitivity among the tract-level variables used by Poehler et al. (2020). We then focus on household-level variables, displaying univariate associations between household race/ethnicity and citizenship characteristics and response behavior, testing for equality of the coefficients in the samples with and without the citizenship question. We estimate multivariate specifications including the household-level characteristics of interest to study whether the effects for each demographic group are statistically significantly different from the effects for all-U.S.-born non-Hispanic households, the group least likely to be affected by the citizenship question. Finally, we add controls to measure the extent to which the associations found in the variables of interest may be proxying for “structural” factors. For regressions containing the panels with and without the citizenship question, we interact each explanatory variable with the indicator for the sample with the citizenship question. The



interactions are a test for whether a group’s difference in responsiveness with and without a citizenship question is statistically significantly different than that for all-U.S.-born non-Hispanic White households.

## Results

We begin by showing unit self-response rates in the ACS in 2016-2019 to provide some context for the 2019 Census Test, then report the 2019 Census Test response rates. Finally, we turn to other measures of response avoidance, including household roster omissions, internet break-offs, and citizenship item nonresponse.

Immigration policy changes starting in 2017 and the 2018 announcement to include a citizenship question on the 2020 Census could have made households more sensitive to the question, affecting their willingness to respond to other Census Bureau surveys containing a citizenship question. The 2019 decision to not include a citizenship question in the 2020 Census may have reduced the sensitivity. As shown in Table 3, the ACS unit self-response rate declines by 1.8 percentage points between 2016 and 2017, then it partially recovers in 2019.<sup>13</sup> Most subcategories also show a U-shaped pattern, though the rates for households with at least one ITIN holder decline each year. Note, however, that the differences in rates over time are modest, and the margins of error overlap across years for smaller groups such as ITIN holders. These patterns provide weak support, at best, for the hypothesis that the announcement that a

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<sup>13</sup> Other factors besides news about the citizenship question may have negatively affected self-response rates, including ending telephone response operations in 2017 and government shutdowns in 2018 and 2019.

citizenship question would be included on the 2020 Census questionnaire caused people sensitive to a citizenship question to opt out of the 2019 Census Test.

The response rates vary between 62.3-64.0 percent for all-U.S.-born non-Hispanic Whites and 24.6-25.4 percent for households with ITIN holders. LA-born people have much lower rates than those born in other foreign countries.

Turning to 2019 Census Test unit self-response, the tract-level LRS, percent foreign-born, percent Hispanic, and percent noncitizen variables are strongly negatively associated with unit self-response without the citizenship question, but their effects do not significantly change when the citizenship question is present (Table 4). The overall citizenship question effect is also statistically insignificant.

Table 5 shows the 2019 Census Test unit self-response rates separately by household demographic characteristics and by whether the citizenship question is present or not. The response rate to the questionnaire without the citizenship question for households with all-U.S.-born non-Hispanic White members is 70.4 percent, compared to 16.5 percent for households whose members all have ITINs. Households with only noncitizens have lower response rates than those with mixed citizens and noncitizens, and those with only ITIN holders have lower rates than those with a mix of SSN and ITIN holders.

The top row of Table 5 replicates Poehler et al.'s (2020) result of a small (0.5 percentage point) and statistically insignificant decline in the overall unit self-response rate when the citizenship question is present. Groups with statistically significantly lower response rates with the citizenship question at the 5 percent level include households with at least one noncitizen,

U.S.-born Hispanic, non-LA-born naturalized citizen, noncitizen with an SSN, an ITIN holder, and households with all non-Hispanic White members. The largest decline (11.14 percent) is experienced by households with at least one ITIN holder. The fact that many of the associations between household-level characteristics and the citizenship question are statistically significant, while the tract-level measures in Table 4 are not close to being statistically significant, suggests that having a vulnerable household member matters much more for a household's response decision than having neighbors who might be affected by the question does. When comparing the rankings of groups by their response rates to the questionnaire without the citizenship question and their differences in rates across panels, we generally find that the groups more likely to opt out of the RCT have larger citizenship question effects. The most prominent exception is households with U.S.-born non-Hispanic Blacks, which have one of the lowest rates without the citizenship question (35.46 percent), but almost no difference with the citizenship question (35.31 percent). This is consistent with Evans et al.'s (2019) finding that Blacks had a generally neutral attitude to the question.

The citizenship question effects in Table 5 are much more heterogeneous than those reported by Poehler et al. (2020) using tract characteristics, even when focusing on groups likely to be more sensitive. Poehler et al. (2020) found a 1.30 percent lower response rate for households in tracts with more than 15.0 percent foreign-born people, 2.17 percent for those with more than 11.1 percent noncitizens, and 3.01 percent lower for those with more than 49.1 percent Hispanics. Table 5 shows that the response rate drop in the citizenship question panel is 2.18 percent for households with non-LA-born naturalized citizens, 2.67 percent for those with non-LA-born noncitizens with SSNs, 3.29 percent for those with LA-born naturalized citizens,

3.43 percent for those with U.S.-born Hispanics, 5.70 percent for those with LA-born noncitizens with SSNs, and 11.14 percent for those with ITIN holders.

The sample size of the group with the largest citizenship question effects (households with ITIN holders) is just 2.4 percent (Table 2), and only 27.5 percent of them respond to the questionnaire without the citizenship question. They thus make little contribution to the overall sample of households willing to participate in the RCT. That fact and the small effects for other groups help explain why the overall citizenship question effect is insignificant.

Figure 1 brings the 2019 Census Test and 2019 ACS unit self-response rates together. The differences across demographic group are very similar in the RCT and the ACS.

In logistic regressions (Table 6), the differences between each demographic group and all-U.S.-born non-Hispanic White (the base category) without the citizenship question are all statistically significant, except for naturalized citizens, with and without controls. The only statistically significant difference in unit self-response when adding the citizenship question is for households with ITIN holders. That effect remains significant with controls, though it declines by 27.2 percent. The results suggest that the citizenship question effect on unit self-response is found only in the small group of households most vulnerable to the question. Such narrowly focused effects are not visible when using tract-level variables.

As shown in Table 7, housing structures with mail that is undeliverable as addressed, more people in the household, headed by an unmarried female, higher mobility among household members, lower income, multi-unit structures or mobile homes, or with younger people have lower unit self-response rates when the citizenship question is not present. Tracts

with less internet connectivity (internet choice) and with more Spanish speakers (bilingual questionnaire) also have lower unit self-response rates. The citizenship question effects across the controls are jointly statistically insignificant. Only two categories individually have statistically significantly different effects when a citizenship question is present, including households headed by an unmarried female and those with income in the fourth quartile of the distribution. “Structural” variables are thus associated with response rates in general, but they cannot explain differences in sensitivity to the citizenship question.

The difference between the number of AR people in the household and the number of people for whom sufficient information was provided in the response is greater in tracts with higher LRSs and more Hispanics, foreign-born people, and noncitizens (Table 8). This suggests hard-to-count characteristics are associated with household roster omissions. The citizenship question effects are insignificant for all these measures.

The mean difference between the number of AR people in the household and the number of people for whom sufficient information was provided in the response is 0.08 people in households with all-U.S.-born non-Hispanic Whites and 1.78 in those with at least one person with an SSN and one ITIN holder for the panel without the citizenship question (Table 9). Households with LA-born immigrants have differences about twice as large as those with immigrants born elsewhere. The citizenship question effect on household roster omissions is limited to households with at least one U.S.-born American Indian or Alaska Native (AIAN), a U.S.-born Hispanic, or an ITIN holder.

All other demographic groups have statistically significantly larger differences between the AR count and the number of data-defined people in the response compared to all-U.S.-born non-Hispanic Whites, but only households with at least one U.S.-born AIAN, a U.S.-born Hispanic, or an ITIN holder have a statistically significantly larger difference when the citizenship question is added (Table 10). The citizenship question effects for these groups are attenuated somewhat and are statistically significant only at the 10 percent level when controls are included.

The second proxy for household omissions, the difference between the respondent-reported household population count and the number of people for whom sufficient answers are provided, is positively associated with the LRS as well as the Hispanic, foreign-born, and noncitizen tract shares. The citizenship question panel has a larger difference overall and by these tract-level characteristics (Table 11).

As shown in Table 12, the average difference between the reported population count and the number of people with answers is 0.02 people for all-U.S.-born non-Hispanic Whites and 0.12 people for households with at least one ITIN holder when the citizenship question is absent. Mixed citizen and noncitizen households have twice as large a difference as those with only noncitizens. The difference in the full sample increases by a statistically significant 36.3 percent when a citizenship question is included. The change in the difference when adding a citizenship question is statistically significant for most groups, suggesting broad effects, though it is insignificant for the all-U.S.-born non-Hispanic White household category. In multivariate regressions, the only statistically significant citizenship question effects are for the non-LA-born naturalized citizen, LA-born noncitizen with SSN, and ITIN holder categories (Table 13). This

indicates that household roster omissions increase (according to this proxy) when a citizenship question is present, with particularly large increases for immigrants.

The higher noncitizen household roster omission rate when the citizenship question is present is consistent with Evans et al.'s (2019) reporting that respondents would omit noncitizens from their household rosters. The higher rates for Hispanics, LA-born people, and ITIN holders (who are often Hispanic) in the citizenship question panel gives credence to Baum et al.'s (2022) interpretation that finding fewer Hispanics in the household roster when the question is present is a sign of household roster omissions rather than reclassification of Hispanics as non-Hispanics.

Internet responses are more frequently incomplete in hard-to-count tracts and those with more foreign-born, Hispanics, and noncitizens when the citizenship question is absent (Table 14). The citizenship question is associated with more break-offs overall and especially in tracts with more immigrants and noncitizens.

The break-off rate is 0.7 percent for all-U.S.-born non-Hispanic White households and 3.9 percent for households with only ITIN holders without a citizenship question (Table 15). Adding a citizenship question raises break-offs by a statistically significant 53.6 percent overall, and the effect is statistically significant for most groups, including all-U.S.-born non-Hispanic White households. The largest increase in break-offs is for non-LA-born naturalized citizens (147.3 percent). Only the non-LA-born naturalized citizen and LA-born noncitizen with SSN groups have statistically significant citizenship question effects in the multivariate regressions (Table 16). The

citizenship question effects are broad-based, with some immigrant groups exhibiting stronger effects.

Households in hard-to-count tracts and tracts with more immigrants, Hispanics, and noncitizens have more break-offs both at the citizenship question and at other questions. They also have more citizenship question item nonresponse in internet responses (Table 17).

Just 1.7 percent of all-U.S.-born non-Hispanic White households have any kind of internet break-off or citizenship item nonresponse, compared to 7.2 percent of households with LA-born noncitizens with an SSN and 8.8 percent of households with an ITIN holder (Figure 2). A break-off at the citizenship question is a strong signal of sensitivity, and the break-off rate differences across groups at that point are particularly large: 1.6 percent for households with at least one ITIN holder, 1.2 percent for households with LA-born noncitizens with an SSN, and 0.14 percent for all-U.S.-born non-Hispanic White households. The differences in break-off rates and citizenship item nonresponse relative to all-U.S.-born non-Hispanic White households are mostly statistically significant among the noncitizen groups, but usually not among citizen groups, without or with controls (Tables 18 and 19).

Citizenship item response in mail returns is lower in tracts that are harder-to-count and have more Hispanics, immigrants, and noncitizens (Table 20). The share of households with incomplete citizenship item response is 17.6 percent for households with a LA-born noncitizen with an SSN, 15.9 percent for those with an ITIN holder, and 2.8 percent for all-U.S.-born non-Hispanic Whites (Table 21). These differences are much larger than those for individual citizenship item nonresponse in the ACS, as reported by O'Hare (2018). The differences in rates



compared to all-U.S.-born non-Hispanic White households are statistically significant for many of the groups without controls, but the effects are attenuated with controls, and the households with an ITIN holder difference loses significance (Table 22).

## **Conclusion**

We construct AR-sourced address characteristics and combine them with data on responding and nonresponding addresses in the 2019 Census Test. This allows us to observe differences in response avoidance behavior to a decennial census questionnaire by household type. We also measure differences in avoidance when adding a citizenship question for each household category. Our results show little variation in citizenship question effects on unit self-response when employing tract-level characteristics like those used by Poehler et al. (2020), but substantial variation when using address-level characteristics. Tract-level characteristics exhibit significant associations between the citizenship question and household roster omissions, internet break-offs, and citizenship item nonresponse, but Poehler et al. (2020) did not study those associations.

For nearly all types of response avoidance behavior, households with ITIN holders are most sensitive to the citizenship question, and LA-born immigrants are more sensitive than other immigrants. These patterns are consistent with the findings from smaller-scale studies (Baum et al. 2022, Evans et al. 2019, and Kissam et al. 2019) about the types of people who would be most affected by the citizenship question. Our effect magnitudes are smaller than what these studies found, however. This may reflect differences in behavior when a respondent

is asked to predict their behavior 1-2 years in the future compared to being asked to complete a questionnaire like the decennial census right away.

Some of the associations between ITIN holders, LA-born immigrants, and responsiveness are attenuated by the inclusion of “structural” hard-to-count measures in the regressions, suggesting that the ITIN and LA-born associations with responsiveness without the controls partly reflect their living conditions. In most regressions, though, the ITIN and LA-born associations remain statistically significant with controls.

The citizenship question effects on response avoidance behavior are stronger for the groups that have higher rates of avoidance behavior to a questionnaire without a citizenship question. Differential undercounts are affected by response avoidance, both indirectly through lower unit self-response rates and directly through more household roster omissions.<sup>14</sup> Inclusion of a citizenship question would thus exacerbate differential undercounts.

Brown et al. (2023a and 2023c) found that AR cover more noncitizens, especially ITIN holders and others with unknown legal status, than the 2020 Census and the ACS. The low unit self-response rates and high household roster omission rates reported here for households with noncitizens, particularly those with ITIN holders, illustrate mechanisms through which the lower coverage occurs.

Our study demonstrates new ways to analyze survey tests. Independently collected AR can provide detailed characteristics about both responding and nonresponding addresses.

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<sup>14</sup> Hill et al. (2022) showed that person omission rates in the 2020 Census are negatively correlated with unit self-response rates.

Household roster omissions can be measured using AR as a benchmark and by comparing the reported population count with the number of people with information, avoiding the need for costly follow-up interviews.

## References

- Barreto, Matthew. 2018. "Expert Report of Matthew Barreto, Ph.D." Expert report in *Department of Commerce v. New York*. Downloaded from <http://mattbarreto.com/papers/Declaration%20of%20Matthew%20A.%20Barreto%20-%20NY.pdf>.
- Baum, Matthew A., Bryce J. Dietrich, Rebecca Goldstein, and Maya Sen. 2022. "Sensitive Questions, Spillover Effects, and Asking About Citizenship on the U.S. Census." *The Journal of Politics* 84(3):1869—1873.
- Bernhardt, Robert, and Phanindra V. Wunnava. 2023. "Does Asking About Citizenship Increase Labor Survey Non-Response?" *Journal of Population Economics* 36:2457—2481.
- Brown, J. David, Misty L. Heggeness, Suzanne M. Dorinski, Lawrence Warren, and Moises Yi. 2019. "Predicting the Effect of Adding a Citizenship Question to the 2020 Census." *Demography* 56:1173—1194.
- Brown, J. David, Genevieve Denoeux, Misty L. Heggeness, Carl Lieberman, Lauren Medina, Marta Murray-Close, Danielle H. Sandler, Joseph L. Schafer, Matthew Spence, Lawrence Warren, and Moises Yi. 2023a. "Estimating the U.S. Citizen Voting Age Population (CVAP) Using Blended Survey Data, Administrative Record Data, and Modeling." Center for Economic Studies Discussion Paper CES 23-21.
- Brown, J. David, Samuel R. Cohen, Genevieve Denoeux, Suzanne Dorinski, Misty L. Heggeness, Carl Lieberman, Linden McBride, Marta Murray-Close, Hongxun Qin, Allen E. Ross, Danielle H. Sandler, Lawrence Warren, and Moises Yi. 2023b. "Real-Time 2020 Administrative Record Census Simulation." U.S. Census Bureau.
- Brown, J. David, Misty L. Heggeness, and Marta Murray-Close. 2023c. "Noncitizen Coverage and Its Effects on U.S. Population Statistics." Center for Economic Studies Discussion Paper CES 23-42.
- Datta, A. Rupa, Ting Yan, Doug Evans, Steven Pedlow, Bruce Spencer, and Rene Bautista. 2012. "2010 Census Integrated Communications Program Evaluation (CICPE)." 2010 Census Planning Memoranda Series No. 167.

Ennis, Sharon R., Sonya R. Porter, James M. Noon, and Ellen Zapata. 2018. "When Race and Hispanic Origin Reporting are Discrepant Across Administrative Records and Third Party Sources: Exploring Methods to Assign Responses." *Statistical Journal of the IAOS* 34:179—189.

Erdman, Chandra, and Nancy Bates. 2017. "The Low Response Score (LRS): A Metric to Locate, Predict, and Manage Hard-To-Survey Populations." *Public Opinion Quarterly* 81(1):114—156.

Evans, Sarah, Jenna Levy, Jennifer Miller-Gonzalez, Monica Vines, Anna Sandoval Girón, Gina Walejko, Nancy Bates, and Yazmin García Trejo. 2019. "2020 Census Barriers, Attitudes, and Motivators Study (CBAMS) Focus Group Final Report." Washington, DC: U.S. Census Bureau.

Hill, Courtney, Krista Heim, Jinhee Hong, and Nam Phan. 2022. "Census Coverage Estimates for People in the United States by State and Census Operations." 2020 Post-Enumeration Survey Estimation Report PES20-G-02.

Kephart, Kathleen M., Broderick E. Oliver, Gregory Mills, and Jason Lizarraga. 2023. "2020 American Community Survey Content Test Evaluation Report: Household Roster." American Community Survey Research and Evaluation Report Memorandum Series # ACS23-RER-05.

Kissam, Edward, Richard Mines, Cindy Quezada, Jo Ann Intili, and Gail Wadsworth. 2019. "San Joaquin Valley Latino Immigrants: Implications of Survey Findings for Census 2020." San Joaquin Valley Census Research Project. San Joaquin Valley Health Fund.

National Immigration Law Center. 2022. "Individual Taxpayer Identification Number (ITIN): A powerful tool for immigrant taxpayers." Los Angeles, CA: National Immigration Law Center.

O'Hare, William. 2018. "Citizenship Question Nonresponse: A Demographic Profile of People Who Do Not Answer the American Community Survey Citizenship Question." Georgetown Center on Poverty and Inequality.

Pepe, Maranda, and Lydia Shia, 2023. "Comparing 2019 Census Test and 2020 Census Self-Response Rates to Estimate Decennial Environment." U.S. Census Bureau.

Poehler, Elizabeth A., Dorothy A. Barth, Lindsay Longsine, Sarah K. Heimel, and Gregory J. Mills, 2020. "2019 Census Test Report." Decennial Statistical Studies Division and American Community Survey Office, U.S. Census Bureau.

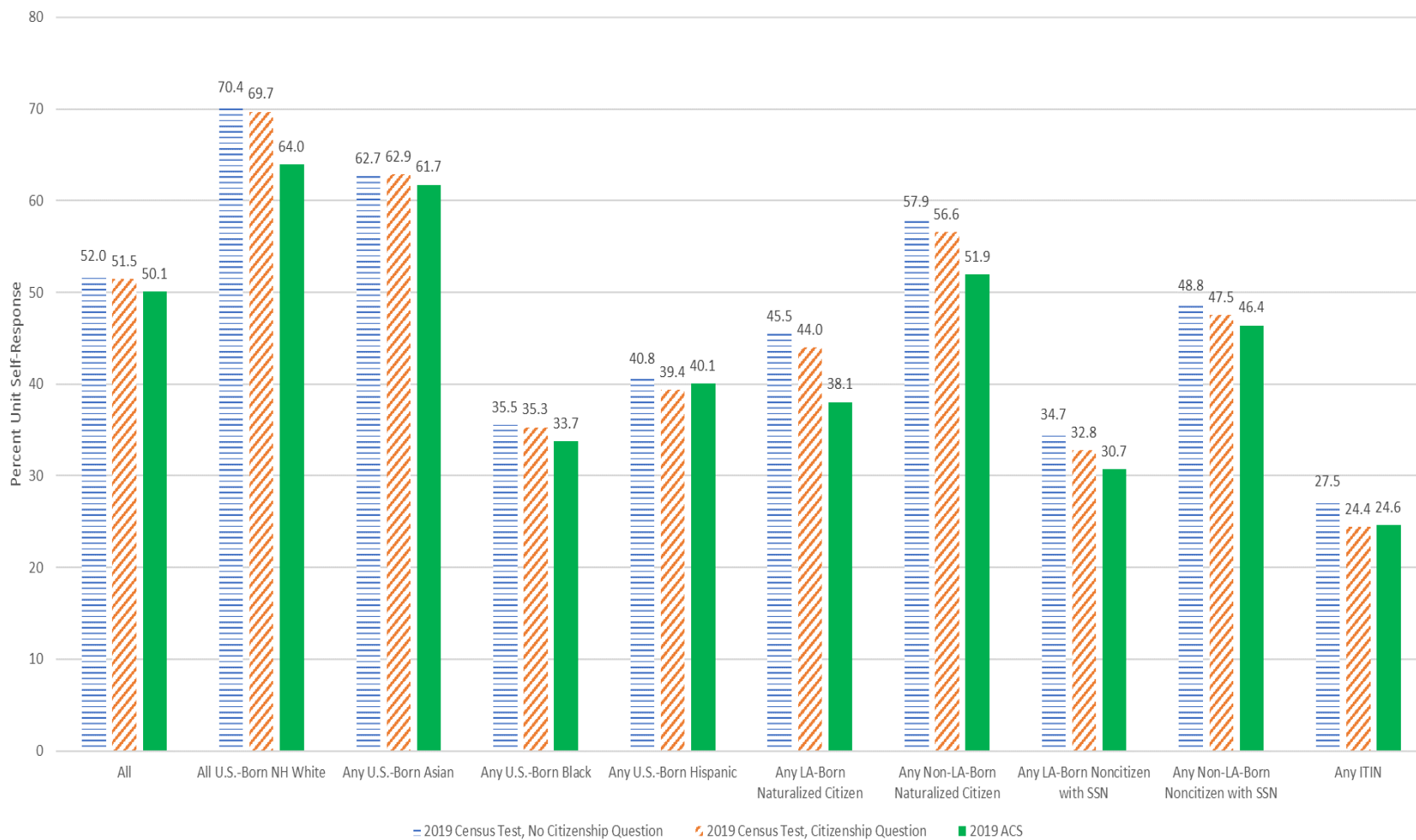
Kissam, Ed, and J. Gregory Robinson, 2023. "Variations in Fresno County ACS and 2020 Census Response Rates: Implications for Allocating Social Program Funding." ACS Data Users Conference Paper, June 14.

Santos, Robert. 2019. "'Nonresponse Bias' Could Explain the Census Bureau's Finding on the Citizenship Question." *Urban Wire*, Urban Institute, November 1.

Tourangeau, Roger, and Ting Yan, 2007. "Sensitive Questions in Surveys." *Psychological Bulletin* 133(5):859—883.

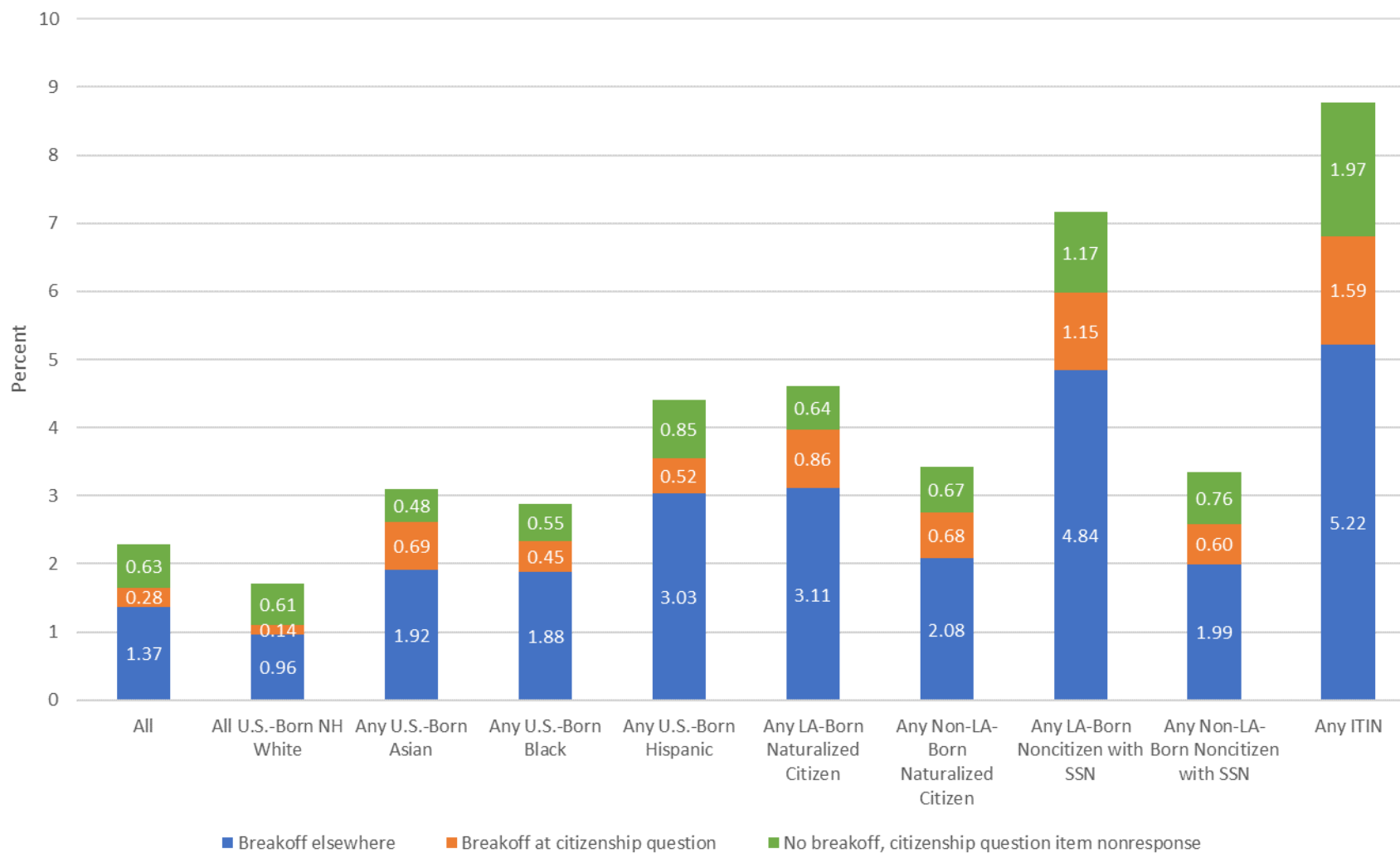
Walejko, Gina, Brian Kriz, Yazmin A. García Trejo, Anna Sandoval Girón, Sarah Evans, and Nancy Bates. 2021. "Use of Exact Matching to Examine Median's Effect on Intended Behavior: The Case of the Addition of the 2020 Census Citizenship Question." *Public Opinion Quarterly* 84(4):1000—1013.

Figure 1. 2019 Census Test and 2019 ACS Unit Self-Response Rates



Notes: The 2019 ACS unit self-response rates are weighted by initial housing unit base weights. ACS margins of error are reported in Table 3. The 2019 Census Test percentages are survey-weighted. 2019 Census Test standard errors are reported in Table 5. The number of observations for the 2019 Census Test is 480,000, equally divided into panels with and without a citizenship question. Variable definitions are in Table 1. The data presented in this figure are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Figure 2. Internet Break-offs and Citizenship Item Nonresponse



Notes: The percentages are survey-weighted. Variable definitions are in Table 1. The number of observations is 79,500. The data presented in this figure are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 1. Explanatory Variable Definitions

Variable	Definition
Responsiveness Measures	
ACS unit self-response	The sample is all addresses in the initial American Community Survey sample. The value equals 1 if there is an internet response, mail response, telephone response, or the unit is determined to be vacant or a delete (not an inhabitable residential housing structure), and it is 0 otherwise. Nonresponses include both those selected for Computer-Assisted Personal Interview (CAPI) fieldwork follow-up and ones not chosen for follow-up (subsamped out of CAPI).
2019 Census Test unit self-response	The sample is all addresses in the 2019 Census Test. The value equals 1 if a complete or sufficient partial response is received, and it is 0 otherwise. The population count could be positive or 0.
AR population count minus number of data-defined people	The sample is households with at least one person in administrative records and at least one data-defined person in the response. The AR population count is the number of people in AR in the 2019 Demographic Frame at the address when using the modal person-place probability from the random forest model. Data-defined people are person-level records in the 2019 Census Test with at least a minimum level of information, indicating an attempt to respond to the survey.
Respondent-reported population count minus number of data-defined people	The sample is households where an internet response is chosen, the respondent-reported population count is at least two, the count is at least as large as the number of data-defined people in the response, and no one is reported to usually live elsewhere. The respondent-reported population count is the response to “How many people were living or staying in this house, apartment, or mobile home on July 1, 2019?” It is the first question in the survey. Data-defined people are person-level records in the 2019 Census Test with at least a minimum level of information, indicating an attempt to respond to the survey.
Internet return with break-off	The sample is households where an internet return is the chosen response. The variable equals 1 if the respondent exits the internet instrument prior to answering all questions, and it is 0 otherwise.
Internet return completeness	The sample is households where an internet return is the chosen response, and the citizenship question is included in the questionnaire. The values are a break-off elsewhere than at the citizenship question screen, a break-off at the citizenship screen, no break-off and a citizenship question item nonresponse for at least one person, and no break-off and complete citizenship question item response (base category).
Mail return citizenship item response	The sample is households where a mail return is the chosen response. The dependent variable equals 1 if there is a citizenship question response for all people in the household roster, and 0 otherwise.



Variable	Definition
Tract-level variables	
Low Response Score	The score predicts the unit self-response rate in the 2010 Census. A higher score is associated with being harder to count, as explained in Erdman and Bates (2017). This is from the 2018 Census Planning Database, containing data from the 2012-2016 American Community Survey.
Tract proportion Hispanic	Hispanic proportion in the tract, from the 2018 Census Planning Database, containing data from the 2012-2016 American Community Survey.
Tract proportion foreign-born	Proportion foreign-born in the tract, from the 2018 Census Planning Database, containing data from the 2012-2016 American Community Survey.
Tract with medium noncitizen share	This is an indicator variable for tracts with between 4.9 and 11.1 percent noncitizens or a Low Response Score over 24.0, using the 2018 Census Planning Database, containing data from the 2012-2016 American Community Survey.
Tract with high noncitizen share	This is an indicator variable for tracts with more than 11.1 percent noncitizens using the 2018 Census Planning Database, containing data from the 2012-2016 American Community Survey.
Variables of interest	
All citizen	All the people in AR in the household are U.S. citizens.
Any noncitizen	At least one person in AR in the household is a non-U.S. citizen.
Mixed citizen and noncitizen	At least one person in AR in the household is a U.S. citizen and at least one is a non-U.S. citizen.
All noncitizen	All the people in AR in the household are non-U.S. citizens.
All U.S.-born non-Hispanic White	All the people in AR in the household are U.S.-born non-Hispanic Whites (base category).
Any U.S.-born non-Hispanic Black	At least one person in AR in the household is U.S.-born non-Hispanic Black.
Any U.S.-born non-Hispanic AIAN	At least one person in AR in the household is U.S.-born non-Hispanic American Indian and Alaska Native.
Any U.S.-born non-Hispanic Asian	At least one person in AR in the household is U.S.-born non-Hispanic Asian.
Any U.S.-born non-Hispanic Some Other Race	At least one person in AR in the household is U.S.-born non-Hispanic Some Other Race. We include Native Hawaiian and Pacific Islander in this group.
Any U.S.-born non-Hispanic Two or More Races	At least one person in AR in the household is U.S.-born non-Hispanic Two or More Races.
Any U.S.-born Hispanic	At least one person in AR in the household is U.S.-born Hispanic.
Any LA-born naturalized citizen	At least one person in AR in the household is a naturalized U.S. citizen born in Belize, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, or Panama.
Any non-LA-born naturalized citizen	At least one person in AR in the household is a naturalized U.S. citizen born in a foreign country other than Belize, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, or Panama.

Variable	Definition
Any LA-born noncitizen with SSN	At least one person in AR in the household is a non-U.S. citizen with an SSN and was born in Belize, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, or Panama and has a Social Security number (SSN).
Any non-LA-born noncitizen with SSN	At least one person in AR in the household is a non-U.S. citizen with an SSN and was born in a foreign country other than Belize, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, or Panama and has a Social Security number (SSN).
Any ITIN	At least one person in AR in the household has an Individual Taxpayer Identification Number (ITIN), which is a 9-digit number in a publicly known range found in the SSN field of AR. They are issued by the Internal Revenue Service (IRS) to people needing to pay taxes, but who are ineligible for an SSN.
Mixed ITIN and SSN	At least one person in AR in the household has an ITIN and at least one has an SSN.
All ITIN	All people in AR in the household have an ITIN.
Any missing race or ethnicity or citizenship	At least one person in AR in the household has missing race, ethnicity, or citizenship.
No administrative data	There are no people in AR in the household.
Controls	
One person in housing unit	There is one person in AR in the household (base category).
Two people in housing unit	Two people are in AR in the household.
Three people in housing unit	Three people are in AR in the household.
Four people in housing unit	Four people are in AR in the household.
Five or more people in housing unit	Five or more people are in AR in the household.
Undeliverable as addressed	The U.S. Postal Service returned one or more of the Census Bureau's 2019 Census Test mailings to this address with a notification that it was undeliverable as addressed.
Internet first, English questionnaire	The first mailing for this address in the 2019 Census Test was a postcard with a link to reply on the internet. The mailing materials were in English. This was used in tracts with a higher level of internet connectivity and few Spanish speakers (base category).
Internet first, bilingual questionnaire	The first mailing for this address in the 2019 Census Test was a postcard with a link to reply on the internet. The mailing materials were in English and Spanish. This was used in tracts with a higher level of internet connectivity and many Spanish speakers.
Internet choice, English questionnaire	The first mailing for this address in the 2019 Census Test included a paper questionnaire and an invitation to reply on the internet. The mailing materials were in English. This was used in tracts with a lower level of internet connectivity and few Spanish speakers.
Internet choice, bilingual questionnaire	The first mailing for this address in the 2019 Census Test included a paper questionnaire and an invitation to reply on the internet. The mailing materials were in English and Spanish. This was used in tracts with a lower level of internet connectivity and many Spanish speakers.

Variable	Definition
Married filing jointly	This housing unit had an IRS 1040 tax return of the married filing jointly type.
Unmarried female head of household	This housing unit had an IRS 1040 tax return of the unmarried head of household type, and the filer was female.
Mean number of addresses per person	This is the mean across all AR people in the household of the person's number of addresses in the 2019 Demographic Frame.
No IRS 1040 return	No Internal Revenue Service (IRS) 1040 return was filed for this household.
Bottom IRS 1040 income quintile	Total monetary income reported in IRS 1040 returns for the household is less than or equal to the 20 <sup>th</sup> percentile of the distribution. This uses the most recent return for each person at the address among returns filed for Tax Year 2017 and 2018. The distribution is calculated using all addresses, whether the address is in the 2019 Census Test or not. Income from 2017 is converted to 2018 dollars using the Bureau of Labor Statistics annual Consumer Price Index for all urban consumers.
Second IRS 1040 income quintile	Total monetary income reported in IRS 1040 returns for the household is above the 20 <sup>th</sup> percentile and less than or equal to the 40 <sup>th</sup> percentile of the distribution.
Third IRS 1040 income quintile	Total monetary income reported in IRS 1040 returns for the household is above the 40 <sup>th</sup> percentile and less than or equal to the 60 <sup>th</sup> percentile of the distribution.
Fourth IRS 1040 income quintile	Total monetary income reported in IRS 1040 returns for the household is above the 60 <sup>th</sup> percentile and less than or equal to the 80 <sup>th</sup> percentile of the distribution.
Top IRS 1040 income quintile	Total monetary income reported in IRS 1040 returns for the household is above the 80 <sup>th</sup> percentile of the distribution.
Single-unit housing structure	The household is in a single-unit housing structure according to the Final Tabulation 2020 Census Master Address File extract (base category).
Multi-unit housing structure	The household is in a multi-unit housing structure according to the Final Tabulation 2020 Census Master Address File extract.
Mobile home or recreational vehicle	The household is in a mobile home or recreational vehicle housing structure according to the Final Tabulation 2020 Census Master Address File extract.
Other unit	The household is in a housing structure other than a single-unit, multi-unit, mobile home, or recreational vehicle. There are too few observations in this category to report separately. It is in the base category together with single-unit structures in the multivariate regressions.
Has person age 0-4	The household contains at least one person age 4 or under in AR.
Has person age 5-17	The household contains at least one person between ages 5 and 17 in AR.
Has person age 18-24	The household contains at least one person between ages 18 and 24 in AR.

Variable	Definition
Has person age 25-44	The household contains at least one person between ages 25 and 44 in AR (base category).
Has person age 45-64	The household contains at least one person between ages 45 and 64 in AR.
Has person age 65 or over	The household contains at least one person age 65 or over in AR.

Table 2. Variable Percent of Initial Sample

	Panel with citizenship question	Panel without citizenship question	Adjusted Wald test Prob > F
All citizen	54.70	54.68	0.9215
Any noncitizen	11.77	11.77	0.9665
Mixed citizen and noncitizen	9.272	9.331	0.5123
All noncitizen	2.502	2.439	0.1238
All U.S.-born non-Hispanic White	33.94	33.94	0.9930
Any U.S.-born non-Hispanic Black	10.33	10.13	0.6479
Any U.S.-born non-Hispanic AIAN	0.9052	0.9216	0.5689
Any U.S.-born non-Hispanic Asian	1.766	1.777	0.7999
Any U.S.-born non-Hispanic Some Other Race	0.4144	0.4099	0.8074
Any U.S.-born non-Hispanic Two or More Races	2.054	2.005	0.3652
Any U.S.-born Hispanic	11.30	11.35	0.7141
Any LA-born naturalized citizen	1.940	1.960	0.6194
Any non-LA-born naturalized citizen	6.742	6.664	0.3451
Any LA-born noncitizen with SSN	3.410	3.407	0.9543
Any non-LA-born noncitizen with SSN	7.296	7.297	0.9976
Any ITIN	2.440	2.403	0.3982
Mixed ITIN and SSN	2.196	2.173	0.5841
All ITIN	0.2440	0.2301	0.2579
Any missing race or ethnicity or citizenship	18.17	18.14	0.8192
No administrative data	19.77	19.87	0.5212
One person in housing unit	20.88	20.57	0.0318
Two people in housing unit	22.70	22.83	0.4679
Three people in housing unit	13.04	13.10	0.5947
Four people in housing unit	11.06	11.14	0.3915
Five-plus people in housing unit	12.55	12.50	0.6500
Undeliverable as addressed	9.220	9.271	0.5585
Internet first, English questionnaire	73.54	73.55	0.9406
Internet first, bilingual questionnaire	5.595	5.589	0.9767
Internet choice, English questionnaire	17.24	17.24	0.9987
Internet choice, bilingual questionnaire	3.622	3.618	0.9736
Married filing jointly	36.19	36.43	0.4999
Unmarried female head of household	2.876	2.815	0.3107
Mean number of addresses per person	1.599	1.596	0.5682
No IRS 1040 return	12.25	12.19	0.6440
Bottom IRS 1040 income quintile	13.21	13.22	0.9685
Second IRS 1040 income quintile	13.88	13.94	0.6324

	Panel with citizenship question	Panel without citizenship question	Adjusted Wald test Prob > F
Third IRS 1040 income quintile	14.13	13.98	0.1761
Fourth IRS 1040 income quintile	14.48	14.63	0.2273
Top IRS 1040 income quintile	14.69	14.59	0.4836
Single-unit housing structure	58.00	57.97	0.9316
Multi-unit housing structure	16.01	15.90	0.6364
Mobile home or recreational vehicle	3.572	3.614	0.6116
Has person age 0-4	9.494	9.454	0.6588
Has person age 5-17	21.79	21.66	0.2765
Has person age 18-24	15.41	15.40	0.8955
Has person age 25-44	37.87	37.82	0.8170
Has person age 45-64	39.20	39.37	0.3389
Has person age 65 or over	26.17	26.33	0.4251

Notes: The number of observations is 480,000. The Adjusted Wald test is based on standard errors from 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. Variable definitions are in Table 1. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 3. ACS Unit Self-Response Rates

	2016	2017	2018	2019
All	50.94 (0.05420)	49.15 (0.05793)	48.98 (0.05880)	50.09 (0.05913)
All citizen	53.60 (0.07347)	52.07 (0.07574)	51.93 (0.08129)	53.05 (0.07832)
Mixed citizen and noncitizen	41.91 (0.1462)	40.91 (0.1591)	40.50 (0.1437)	41.25 (0.1361)
Any noncitizen	41.83 (0.1495)	40.77 (0.1553)	40.36 (0.1314)	41.07 (0.1404)
All noncitizen	40.61 (0.5647)	38.71 (0.5410)	38.34 (0.5580)	38.40 (0.6101)
All U.S.-born non-Hispanic White	63.39 (0.1000)	62.33 (0.09289)	62.60 (0.09861)	63.95 (0.09932)
Any U.S.-born non-Hispanic Black	35.64 (0.1264)	33.64 (0.1090)	33.06 (0.1373)	33.73 (0.1343)
Any U.S.-born non-Hispanic AIAN	43.30 (0.3675)	42.17 (0.3981)	43.10 (0.3426)	44.01 (0.3619)
Any U.S.-born non-Hispanic Asian	60.76 (0.3026)	60.20 (0.2865)	60.81 (0.2945)	61.73 (0.3568)
Any U.S.-born non-Hispanic Some Other Race	45.96 (0.5793)	46.05 (0.6072)	45.42 (0.6524)	46.36 (0.5944)
Any U.S.-born non-Hispanic Two or More Races	50.46 (0.2618)	49.76 (0.2652)	50.51 (0.2352)	51.50 (0.2461)
Any U.S.-born Hispanic	39.87 (0.1308)	39.00 (0.1350)	39.11 (0.1412)	40.07 (0.1280)
Any LA-born naturalized citizen	39.30 (0.3732)	38.13 (0.3385)	37.65 (0.3090)	38.05 (0.3686)
Any non-LA-born naturalized citizen	52.78 (0.1850)	51.31 (0.1843)	51.01 (0.1716)	51.93 (0.1844)
Any LA-born noncitizen with SSN	31.35 (0.2246)	30.49 (0.2298)	30.15 (0.2369)	30.70 (0.2476)
Any non-LA-born noncitizen with SSN	47.23 (0.1883)	46.06 (0.1911)	45.60 (0.1613)	46.40 (0.1890)
Any ITIN	25.37 (0.3024)	24.97 (0.2765)	24.63 (0.2932)	24.59 (0.3620)

	2016	2017	2018	2019
Mixed ITIN and SSN	25.65	25.30	24.93	24.89
	(0.3146)	(0.2852)	(0.2993)	(0.3763)
All ITIN	12.85	9.90	12.33	12.26
	(1.265)	(1.467)	(1.740)	(1.538)
No administrative data	16.88	15.69	15.89	16.59
	(0.1071)	(0.1219)	(0.1216)	(0.1046)

Notes: The estimates are weighted by initial housing unit base weights. The values in parentheses are margins of error at the 5 percent level using 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. Variable definitions are in Table 1. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).



Table 4. Unit Self-Response Logistic Regressions with Tract-Level Variables

	Marginal effect	Standard error
Citizenship question panel indicator regression		
Has citizenship question	-0.004597	0.003279
Tract Low Response Score regression		
Has citizenship question	-0.006053	0.007096
Tract Low Response Score	-1.964	0.02040
Has citizenship question	0.005626	0.03021
Tract Hispanic share regression		
Has citizenship question	-0.003319	0.004756
Tract proportion Hispanic	-0.3038	0.007176
Has citizenship question	-0.008737	0.01289
Tract foreign-born share regression		
Has citizenship question	-0.002087	0.006385
Tract proportion foreign-born	-0.3225	0.01478
Has citizenship question	-0.02026	0.02734
Tract noncitizen share regression		
Has citizenship question	-0.003208	0.005857
Tract with medium noncitizen share	-0.04462	0.003722
Has citizenship question	-0.001415	0.006536
Tract with high noncitizen share	-0.1422	0.003960
Has citizenship question	-0.005740	0.006576

Notes: Variable definitions are in Table 1. The standard errors use 80 balanced repeated replicate survey weights and a Fay’s adjustment of 0.5. The indented “Has citizenship question” rows are interactions between “Has citizenship question” and the variable immediately preceding it. The number of observations is 480,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 5. Percent Unit Self-Response

	Panel without citizenship question	Panel with citizenship question	Percent change with citizenship question	Adjusted Wald test Prob > F
All	51.96	51.50	-0.89	0.1648
All citizen	64.83	64.25	-0.89	0.1315
Any noncitizen	42.26	40.74	-3.60	0.0004
Mixed citizen and noncitizen	43.28	41.96	-3.05	0.0054
All noncitizen	38.37	36.18	-5.71	0.0122
All U.S.-born non-Hispanic White	70.41	69.74	-0.95	0.0141
Any U.S.-born non-Hispanic Black	35.46	35.31	-0.42	0.7352
Any U.S.-born non-Hispanic AIAN	49.77	49.56	-0.42	0.9089
Any U.S.-born non-Hispanic Asian	62.69	62.93	0.38	0.7946
Any U.S.-born non-Hispanic Some Other Race	49.62	51.18	3.14	0.5237
Any U.S.-born non-Hispanic Two or More Races	51.19	50.09	-2.15	0.3442
Any U.S.-born Hispanic	40.83	39.43	-3.43	0.0038
Any LA-born naturalized citizen	45.54	44.04	-3.29	0.1312
Any non-LA-born naturalized citizen	57.86	56.60	-2.18	0.0158
Any LA-born noncitizen with SSN	34.73	32.75	-5.70	0.0033
Any non-LA-born noncitizen with SSN	48.76	47.46	-2.67	0.0217
Any ITIN	27.47	24.41	-11.14	0.0002
Mixed ITIN and SSN	28.63	25.45	-11.11	0.0002
All ITIN	16.52	15.11	-8.54	0.5153
Any missing race/ethnicity/citizenship	45.90	45.17	-1.59	0.1245
No administrative data	24.00	24.35	1.46	0.3134

Notes: The number of observations is 480,000. The Adjusted Wald test is based on standard errors from 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. Variable definitions are in Table 1. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 6. Unit Self-Response Logistic Regressions with Household-Level Variables

	No controls		With controls	
	Marginal effect	Standard error	Marginal effect	Standard error
Has citizenship question	-0.005088	0.002610	-0.006937	0.006874
Any U.S.-born non-Hispanic Black	-0.2606	0.003189	-0.1605	0.003170
Has citizenship question	0.003929	0.004246	0.005480	0.004396
Any U.S.-born non-Hispanic AIAN	-0.1027	0.01052	-0.04228	0.01036
Has citizenship question	0.007896	0.01544	-0.008461	0.01391
Any U.S.-born non-Hispanic Asian	0.03945	0.007351	0.01419	0.006405
Has citizenship question	0.01448	0.009228	0.01384	0.008259
Any U.S.-born non-Hispanic Some Other Race	-0.06071	0.01716	-0.05401	0.01667
Has citizenship question	0.02711	0.02166	0.02363	0.02102
Any U.S.-born non-Hispanic Two or More Races	-0.05483	0.008007	-0.01809	0.006969
Has citizenship question	-0.0007658	0.01047	-0.008115	0.009062
Any U.S.-born Hispanic	-0.1477	0.003171	-0.08224	0.002939
Has citizenship question	-0.002353	0.005016	-0.001903	0.004512
Any LA-born naturalized citizen	0.01153	0.006260	-0.02487	0.005945
Has citizenship question	-0.004251	0.01014	-0.009167	0.009179
Any non-LA-born naturalized citizen	-0.005680	0.004274	-0.04034	0.003766
Has citizenship question	-0.006741	0.005459	-0.003904	0.004893
Any LA-born noncitizen with SSN	-0.1291	0.05316	-0.1047	0.004865
Has citizenship question	-0.008109	0.007927	-0.005558	0.007298
Any non-LA-born noncitizen with SSN	-0.1141	0.003729	-0.09693	0.003481
Has citizenship question	-0.004282	0.006176	-0.004696	0.005292
Any ITIN	-0.1903	0.006160	-0.1385	0.005431
Has citizenship question	-0.02813	0.009624	-0.02383	0.008453
Any missing race/ethnicity/citizenship	-0.09289	0.002514	-0.05181	0.003357
Has citizenship question	0.001384	0.003968	-0.002163	0.005614
No administrative data	-0.4253	0.002866	-0.1962	0.005158
Has citizenship question	0.009171	0.004243	0.01036	0.007839

Notes: These are marginal effects from logistic regressions with a dependent variable equal 1 if the household responded and 0 otherwise. Variable definitions are in Table 1. The indented “Has citizenship question” rows are interactions between “Has citizenship question” and the variable immediately preceding it. The results for the controls are in Table 5. These are marginal effects. The standard errors use 80 balanced repeated replicate survey weights and a Fay’s adjustment of 0.5. The number of observations is 480,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 7. Unit Self-Response Logistic Regression Control Variable Results

	Marginal effect	Standard error
Undeliverable as addressed	-0.7302	0.01183
Has citizenship question	0.01967	0.01766
Internet first, bilingual questionnaire	-0.06555	0.003439
Has citizenship question	-0.002807	0.004816
Internet choice, English questionnaire	-0.01851	0.002493
Has citizenship question	0.001207	0.003526
Internet choice, bilingual questionnaire	-0.06516	0.004042
Has citizenship question	-0.007275	0.005946
Two people in housing unit	-0.0004406	0.003157
Has citizenship question	0.0009980	0.004263
Three people in housing unit	-0.02490	0.004281
Has citizenship question	0.004835	0.005680
Four people in housing unit	-0.02203	0.004951
Has citizenship question	0.001959	0.006481
Five or more people in housing unit	-0.05603	0.005877
Has citizenship question	0.002607	0.008125
Married filing jointly	0.09595	0.002702
Has citizenship question	0.003011	0.003346
Unmarried female head of household	-0.03263	0.005274
Has citizenship question	-0.01975	0.007953
Mean number of addresses per person	-0.03695	0.001085
Has citizenship question	0.001149	0.001674
Bottom IRS 1040 income quintile	0.06488	0.003660
Has citizenship question	-0.006654	0.005714
Second IRS 1040 income quintile	0.07897	0.004472
Has citizenship question	-0.001581	0.006216
Third IRS 1040 income quintile	0.09503	0.003539
Has citizenship question	0.0001148	0.005510
Fourth IRS 1040 income quintile	0.1272	0.004256
Has citizenship question	-0.01270	0.005793
Top IRS 1040 income quintile	0.1593	0.004229
Has citizenship question	-0.006192	0.006350
Multi-unit housing structure	-0.03510	0.002433
Has citizenship question	-0.0003797	0.003619
Mobile home or recreational vehicle	-0.05794	0.005372
Has citizenship question	0.004816	0.008807
Has person age 0-4	-0.01551	0.003881
Has citizenship question	0.008047	0.005902
Has person age 5-17	-0.04208	0.003240

	Marginal effect	Standard error
Has citizenship question	0.0001062	0.004491
Has person age 18-24	-0.04214	0.003000
Has citizenship question	0.001625	0.004252
Has person age 45-64	0.01850	0.002513
Has citizenship question	0.004296	0.003725
Has person age 65 or over	0.1358	0.002826
Has citizenship question	-0.0003987	0.003938

Notes: These are the marginal effects and standard errors for the control variables in the regression in the second column of Table 6. Variable definitions are in Table 1. The standard errors use 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. The number of observations is 480,000. The adjusted Wald test that all the coefficients on the interactions between these controls and has citizenship question has Prob > F = 0.3500. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 8. Administrative Record Population Count Minus Number of Data-Defined People OLS Regressions with Tract-Level Variables

	Marginal effect	Standard error
Citizenship question panel indicator regression		
Has citizenship question	0.006071	0.005249
Tract Low Response Score regression		
Has citizenship question	-0.02035	0.02382
Tract Low Response Score	0.6984	0.08691
Has citizenship question	0.1368	0.1232
Tract Hispanic share regression		
Has citizenship question	0.004915	0.006508
Tract proportion Hispanic	0.4741	0.03556
Has citizenship question	0.01193	0.04355
Tract foreign-born share regression		
Has citizenship question	0.003613	0.007000
Tract proportion foreign-born	0.5770	0.03311
Has citizenship question	0.02516	0.04810
Tract noncitizen share regression		
Has citizenship question	0.005152	0.006370
Tract with medium noncitizen share	0.04503	0.008278
Has citizenship question	-0.001062	0.01209
Tract with high noncitizen share	0.1649	0.01251
Has citizenship question	0.008920	0.01778

Notes: Variable definitions are in Table 1. The standard errors use 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. The number of observations is 209,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 9. Mean of Administrative Record Population Count Minus Number of Data-Defined People

	Panel without citizenship question	Panel with citizenship question	Percent change with citizenship question	Adjusted Wald test Prob > F
All	0.1898	0.1975	4.06	0.2485
All citizen	0.08908	0.09000	1.03	0.8158
Any noncitizen	0.7270	0.7523	3.48	0.3353
Mixed citizen and noncitizen	0.9280	0.9724	4.78	0.1131
All noncitizen	-0.1503	-0.2045	36.06	0.1114
All U.S.-born non-Hispanic White	0.08237	0.08160	-0.93	0.8843
Any U.S.-born non-Hispanic Black	0.4576	0.4726	3.28	0.4925
Any U.S.-born non-Hispanic AIAN	0.4601	0.6075	32.04	0.0206
Any U.S.-born non-Hispanic Asian	0.6039	0.5884	-2.57	0.7034
Any U.S.-born non-Hispanic Some Other Race	0.5835	0.5657	-3.05	0.8586
Any U.S.-born non-Hispanic Two or More Races	0.5583	0.5507	-1.36	0.8743
Any U.S.-born Hispanic	0.6130	0.6729	9.77	0.0337
Any LA-born naturalized citizen	1.023	1.057	3.32	0.6536
Any non-LA-born naturalized citizen	0.5200	0.5327	2.44	0.6009
Any LA-born noncitizen with SSN	1.150	1.166	1.39	0.8352
Any non-LA-born noncitizen with SSN	0.5801	0.5999	3.41	0.3918
Any ITIN	1.657	1.848	11.53	0.0319
Mixed ITIN and SSN	1.778	1.993	12.09	0.0212
All ITIN	-0.3708	-0.3588	-3.24	0.9675
Any missing race/ethnicity/citizenship	0.6176	0.6425	4.03	0.2122

Notes: The Adjusted Wald test is based on standard errors from 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. The number of observations is 209,000. Variable definitions are in Table 1. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 10. Administrative Record Population Count Minus Number of Data-Defined People OLS Regressions with Household-Level Variables

	No controls		With controls	
	Coefficient	Standard error	Coefficient	Standard error
Has citizenship question	-0.002502	0.005899	-0.01476	0.02839
Any U.S.-born non-Hispanic Black	0.2924	0.01537	0.2185	0.01496
Has citizenship question	0.01096	0.02193	0.01506	0.02128
Any U.S.-born non-Hispanic AIAN	0.2600	0.04338	0.1995	0.04169
Has citizenship question	0.1224	0.05955	0.1033	0.05669
Any U.S.-born non-Hispanic Asian	0.2160	0.02617	0.07792	0.02478
Has citizenship question	-0.04552	0.03826	-0.03730	0.03528
Any U.S.-born non-Hispanic Some Other Race	0.2641	0.07178	0.1726	0.06680
Has citizenship question	-0.02378	0.09733	-0.04432	0.09013
Any U.S.-born non-Hispanic Two or More Races	0.2750	0.03481	0.1820	0.03108
Has citizenship question	-0.02086	0.04632	-0.01580	0.03801
Any U.S.-born Hispanic	0.1986	0.01791	0.1384	0.01582
Has citizenship question	0.05414	0.02451	0.04122	0.02246
Any LA-born naturalized citizen	0.4091	0.04688	0.2291	0.04208
Has citizenship question	0.01611	0.05819	0.02816	0.05382
Any non-LA-born naturalized citizen	0.2620	0.01615	0.1020	0.01389
Has citizenship question	0.006160	0.02346	0.02270	0.02119
Any LA-born noncitizen with SSN	0.4938	0.03926	0.3572	0.03598
Has citizenship question	-0.04900	0.05297	-0.04189	0.04810
Any non-LA-born noncitizen with SSN	0.2605	0.01504	0.1897	0.01404
Has citizenship question	0.01407	0.01951	0.01437	0.01786
Any ITIN	1.013	0.06403	1.155	0.06297
Has citizenship question	0.1760	0.07571	0.1433	0.07494
Any missing race/ethnicity/citizenship	0.3751	0.01161	0.2617	0.01682
Has citizenship question	0.01473	0.01741	0.01039	0.02204

Notes: Variable definitions are in Table 1. The indented “Has citizenship question” rows are interactions between “Has citizenship question” and the variable immediately preceding it. The standard errors use 80 balanced repeated replicate survey weights and a Fay’s adjustment of 0.5. The number of observations is 209,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).



Table 11. Respondent-Reported Population Count Minus Number of Data-Defined People OLS Regressions with Tract-Level Variables

	Marginal effect	Standard error
Citizenship question panel indicator regression		
Has citizenship question	0.01262	0.002157
Tract Low Response Score regression		
Has citizenship question	-0.01228	0.008682
Tract Low Response Score	0.2128	0.02727
Has citizenship question	0.1333	0.04750
Tract Hispanic share regression		
Has citizenship question	0.006970	0.002587
Tract proportion Hispanic	0.07916	0.01010
Has citizenship question	0.04477	0.01562
Tract foreign-born share regression		
Has citizenship question	0.004708	0.002988
Tract proportion foreign-born	0.09033	0.01238
Has citizenship question	0.06746	0.01937
Tract noncitizen share regression		
Has citizenship question	0.008911	0.002666
Tract with medium noncitizen share	0.01541	0.003945
Has citizenship question	0.0006135	0.005233
Tract with high noncitizen share	0.02740	0.003316
Has citizenship question	0.02396	0.006304

Notes: Variable definitions are in Table 1. The standard errors use 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. The number of observations is 119,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 12. Mean of Respondent-Reported Population Count Minus Number of Data-Defined People

	Panel without citizenship question	Panel with citizenship question	Percent change with citizenship question	Adjusted Wald test Prob > F
All	0.03317	0.04579	36.25	0.0000
All citizen	0.02260	0.02708	19.34	0.0374
Any noncitizen	0.06209	0.1083	71.89	0.0000
Mixed citizen and noncitizen	0.06712	0.1149	70.35	0.0000
All noncitizen	0.03304	0.06907	83.15	0.0072
All U.S.-born non-Hispanic White	0.01997	0.02271	13.89	0.3301
Any U.S.-born non-Hispanic Black	0.05482	0.07295	29.71	0.0837
Any U.S.-born non-Hispanic AIAN	0.02621	0.02566	-2.10	0.9723
Any U.S.-born non-Hispanic Asian	0.03920	0.07549	93.87	0.0026
Any U.S.-born non-Hispanic Some Other Race	0.03703	0.09084	134.12	0.1190
Any U.S.-born non-Hispanic Two or More Races	0.05832	0.06458	12.14	0.6695
Any U.S.-born Hispanic	0.07136	0.1101	51.86	0.0002
Any LA-born naturalized citizen	0.07032	0.1295	83.08	0.0113
Any non-LA-born naturalized citizen	0.03518	0.07137	109.21	0.0000
Any LA-born noncitizen with SSN	0.09618	0.1944	96.80	0.0000
Any non-LA-born noncitizen with SSN	0.04645	0.07733	66.46	0.0011
Any ITIN	0.1191	0.2351	89.91	0.0001
Mixed ITIN and SSN	0.1198	0.2389	94.71	0.0001
All ITIN	0.1047	0.1485	41.83	0.7158
Any missing race/ethnicity/citizenship	0.05573	0.08252	46.91	0.0001
No administrative data	0.05075	0.05696	7.17	0.5638

Notes: The Adjusted Wald test is based on standard errors from 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. Variable definitions are in Table 1. The number of observations is 119,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 13. Respondent-Reported Population Count Minus Number of Data-Defined People OLS Regressions with Household-Level Variables

	No controls		With controls	
	Marginal effect	Standard error	Marginal effect	Standard error
Has citizenship question	0.001354	0.002450	0.01473	0.01407
Any U.S.-born non-Hispanic Black	0.02392	0.007359	0.01385	0.007782
Has citizenship question	0.007726	0.01054	0.007627	0.01092
Any U.S.-born non-Hispanic AIAN	-0.007012	0.01228	-0.01248	0.01213
Has citizenship question	-0.01382	0.01638	-0.01306	0.01647
Any U.S.-born non-Hispanic Asian	0.004549	0.007905	0.0002945	0.008062
Has citizenship question	0.01278	0.01305	0.01288	0.01322
Any U.S.-born non-Hispanic Some Other Race	-0.002601	0.01643	-0.005206	0.01614
Has citizenship question	0.03909	0.03499	0.03821	0.03492
Any U.S.-born non-Hispanic Two or More Races	0.02422	0.01189	0.01727	0.01212
Has citizenship question	-0.01006	0.01505	-0.01043	0.01536
Any U.S.-born Hispanic	0.03112	0.006347	0.02118	0.006206
Has citizenship question	0.01300	0.009687	0.01183	0.01003
Any LA-born naturalized citizen	0.001040	0.01337	-0.003609	0.01321
Has citizenship question	0.008516	0.02401	0.007435	0.02438
Any non-LA-born naturalized citizen	0.001176	0.004623	-0.001054	0.004772
Has citizenship question	0.02383	0.008194	0.02321	0.008481
Any LA-born noncitizen with SSN	0.03494	0.01363	0.02731	0.01386
Has citizenship question	0.06818	0.02154	0.06620	0.02159
Any non-LA-born noncitizen with SSN	0.01262	0.006418	0.01014	0.005967
Has citizenship question	0.01111	0.01019	0.01022	0.01004
Any ITIN	0.05909	0.01531	0.05858	0.01512
Has citizenship question	0.07017	0.02802	0.06765	0.02744
Any missing race/ethnicity/citizenship	0.02386	0.004015	0.01238	0.005745
Has citizenship question	0.01226	0.006418	0.01681	0.01087
No administrative data	0.03340	0.008257	0.03719	0.01246
Has citizenship question	0.004857	0.01121	-0.007723	0.01851

Notes: These are coefficients from OLS regressions with a dependent variable of the respondent-reported population count minus the number of data-defined people in the response. Variable definitions are in Table 1. The indented “Has citizenship question” rows are interactions between “Has citizenship question” and the variable immediately preceding it. These are marginal effects. The standard errors use 80 balanced repeated replicate survey weights and a Fay’s adjustment of 0.5. The number of observations is 119,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 14. Internet Return with Break-off Logistic Regressions with Tract-Level Variables

	Marginal effect	Standard error
Citizenship question panel indicator regression		
Has citizenship question	0.005876	0.0005617
Tract Low Response Score regression		
Has citizenship question	0.002312	0.002155
Tract Low Response Score	0.04567	0.008160
Has citizenship question	0.01787	0.009916
Tract Hispanic share regression		
Has citizenship question	0.005627	0.0007621
Tract proportion Hispanic	0.01748	0.001662
Has citizenship question	0.001559	0.002152
Tract foreign-born share regression		
Has citizenship question	0.004433	0.0008193
Tract proportion foreign-born	0.02220	0.002519
Has citizenship question	0.009555	0.003066
Tract noncitizen share regression		
Has citizenship question	0.004715	0.0008884
Tract with medium noncitizen share	0.003509	0.001078
Has citizenship question	0.001465	0.001341
Tract with high noncitizen share	0.006570	0.001012
Has citizenship question	0.003389	0.001311

Notes: Variable definitions are in Table 1. The standard errors use 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. The number of observations is 163,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 15. Percent Internet Returns with Break-off

	Panel without citizenship question	Panel with citizenship question	Percent change with citizenship question	Adjusted Wald test Prob > F
All	1.080	1.659	53.61	0.0000
All citizen	0.8548	1.268	48.34	0.0000
Any noncitizen	1.791	3.492	94.97	0.0000
Mixed citizen and noncitizen	1.885	3.683	95.38	0.0000
All noncitizen	1.402	2.682	91.30	0.0058
All U.S.-born non-Hispanic White	0.7367	1.100	49.31	0.0000
Any U.S.-born non-Hispanic Black	1.562	2.331	49.23	0.0076
Any U.S.-born non-Hispanic AIAN	1.153	1.360	17.95	0.7525
Any U.S.-born non-Hispanic Asian	1.253	2.612	108.46	0.0006
Any U.S.-born non-Hispanic Some Other Race	1.462	2.437	66.69	0.3044
Any U.S.-born non-Hispanic Two or More Races	1.836	2.207	20.21	0.3952
Any U.S.-born Hispanic	2.046	3.548	73.41	0.0000
Any LA-born naturalized citizen	2.545	3.972	56.07	0.0213
Any non-LA-born naturalized citizen	1.117	2.762	147.27	0.0000
Any LA-born noncitizen with SSN	2.885	5.996	107.83	0.0000
Any non-LA-born noncitizen with SSN	1.333	2.583	93.77	0.0000
Any ITIN	3.266	6.809	108.48	0.0001
Mixed ITIN and SSN	3.224	6.849	112.44	0.0001
All ITIN	3.930	6.136	56.13	0.6360
Any missing race/ethnicity/citizenship	1.694	2.503	47.76	0.0000
No administrative data	1.317	1.741	32.19	0.0487

Notes: The Adjusted Wald test is based on standard errors from 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. Variable definitions are in Table 1. The number of observations is 163,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 16. Internet Return with Break-off Logistic Regressions with Household-Level Variables

	No controls		With controls	
	Marginal effect	Standard error	Marginal effect	Standard error
Has citizenship question	0.005060	0.0008891	0.007116	0.003675
Any U.S.-born non-Hispanic Black	0.005828	0.001630	0.003528	0.001748
Has citizenship question	0.0001777	0.002033	0.002077	0.002217
Any U.S.-born non-Hispanic AIAN	0.0006979	0.005756	-0.0004287	0.005785
Has citizenship question	-0.003070	0.007583	-0.001678	0.007637
Any U.S.-born non-Hispanic Asian	0.001805	0.002525	0.0008857	0.002494
Has citizenship question	0.001145	0.003256	0.001564	0.003298
Any U.S.-born non-Hispanic Some Other Race	0.002115	0.005996	0.001499	0.006003
Has citizenship question	0.001468	0.007104	0.001753	0.007129
Any U.S.-born non-Hispanic Two or More Races	0.006974	0.002662	0.005460	0.002663
Has citizenship question	-0.004048	0.003077	-0.003166	0.003101
Any U.S.-born Hispanic	0.006864	0.001360	0.004869	0.001378
Has citizenship question	0.001425	0.001919	0.002378	0.002004
Any LA-born naturalized citizen	0.004040	0.002755	0.003242	0.002750
Has citizenship question	-0.002639	0.003476	-0.002267	0.003475
Any non-LA-born naturalized citizen	0.0002367	0.001694	-0.0003212	0.001767
Has citizenship question	0.007099	0.002007	0.007378	0.002084
Any LA-born noncitizen with SSN	0.006181	0.002379	0.004840	0.002483
Has citizenship question	0.005988	0.002878	0.006416	0.002928
Any non-LA-born noncitizen with SSN	0.002968	0.001480	0.002250	0.001562
Has citizenship question	0.001724	0.002034	0.001726	0.002125
Any ITIN	0.008230	0.002159	0.008382	0.002225
Has citizenship question	0.002270	0.002985	0.001476	0.003050
Any missing race/ethnicity/citizenship	0.006268	0.001218	0.005006	0.001730
Has citizenship question	-0.001974	0.001470	-0.001811	0.002016
No administrative data	0.007165	0.001486	0.009495	0.003044
Has citizenship question	-0.001256	0.001890	-0.003262	0.004112

Notes: These are marginal effects from logistic regressions. The dependent variable equals 1 if the internet response was partial and had a break-off and 0 if it had no break-off. Variable definitions are in Table 1. The indented “Has citizenship question” rows are interactions between “Has citizenship question” and the variable immediately preceding it. These are marginal effects. The standard errors use 80 balanced repeated replicate survey weights and a Fay’s adjustment of 0.5. The number of observations is 163,000. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 17. Internet Return Completeness Multinomial Logistic Regressions with Tract-Level Variables Internet Return Completeness

	Break-off at a question other than citizenship	Break-off at citizenship question	No break-off, citizenship question item nonresponse
Tract Low Response Score regression			
Tract Low Response Score	0.06092 (0.006954)	0.01586 (0.003409)	0.01400 (0.0.005233)
Tract Hispanic share regression			
Tract proportion Hispanic	0.01825 (0.001497)	0.004731 (0.0006867)	0.003992 (0.001129)
Tract foreign-born share regression			
Tract proportion foreign-born	0.03006 (0.001940)	0.008223 (0.001014)	0.008531 (0.001351)
Tract noncitizen share regression			
Tract with medium noncitizen share	0.005102 (0.0008927)	0.0008951 (0.0004680)	0.001039 (0.0006390)
Tract with high noncitizen share	0.009159 (0.0008011)	0.002811 (0.0003993)	0.002451 (0.0005737)

Notes: Variable definitions are in Table 1. These are marginal effects. Standard errors using 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5 are in parentheses. The number of observations is 79,500. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 18. Internet Return Completeness Multinomial Logistic Regression with Household-Level Variables, without Controls

	Break-off at a question other than citizenship	Break-off at citizenship question	No break-off, citizenship question item nonresponse
Any U.S.-born non-Hispanic Black	0.005537 (0.001627)	0.001693 (0.0005401)	-0.0006329 (0.001283)
Any U.S.-born non-Hispanic AIAN	-0.006883 (0.005619)	0.002125 (0.002046)	0.006314 (0.002211)
Any U.S.-born non-Hispanic Asian	0.002076 (0.001968)	0.001201 (0.0008544)	-0.002222 (0.001645)
Any U.S.-born non-Hispanic Some Other Race	0.003745 (0.005426)	D	0.007917 (0.003378)
Any U.S.-born non-Hispanic Two or More Races	0.002682 (0.002213)	0.0008530 (0.001060)	0.001428 (0.002529)
Any U.S.-born Hispanic	0.009244 (0.001305)	0.0007003 (0.0005409)	0.001906 (0.0009090)
Any LA-born naturalized citizen	0.0003865 (0.002549)	0.001199 (0.0009712)	-0.002516 (0.001862)
Any non-LA-born naturalized citizen	0.006028 (0.001285)	0.002634 (0.0006070)	0.0006476 (0.0009823)
Any LA-born noncitizen with SSN	0.01171 (0.001931)	0.003057 (0.0008476)	0.003107 (0.001431)
Any non-LA-born noncitizen with SSN	0.004047 (0.001387)	0.001509 (0.0005781)	0.001360 (0.0009869)
Any ITIN	0.009538 (0.001940)	0.003086 (0.0008625)	0.006596 (0.001419)
Any missing race/ethnicity/citizenship	0.003458 (0.0009807)	0.001686 (0.0004796)	-0.002999 (0.0007625)
No administrative data	0.004784 (0.001350)	0.002352 (0.0006667)	0.0002838 (0.001072)

Notes: This is a multinomial regression with a base category of no break-off and a citizenship question response was provided for all members of the household roster. These are marginal effects. Standard errors using 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5 are in parenthesis. The regression does not include controls. Variable definitions are in Table 1. The indented "Has citizenship question" rows are interactions between "Has citizenship question" and the variable immediately preceding it. "D" signifies that the cell is suppressed because of disclosure rules. The number of observations is 79,500. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).



Table 19. Internet Return Completeness Multinomial Logistic Regression with Household-Level Variables, with Controls

	Break-off at a question other than citizenship	Break-off at citizenship question	No break-off, citizenship question item nonresponse
Any U.S.-born non-Hispanic Black	0.005204 (0.001755)	0.001554 (0.0005395)	0.00005750 (0.001332)
Any U.S.-born non-Hispanic AIAN	-0.006699 (0.005568)	0.002288 (0.002078)	0.006999 (0.002255)
Any U.S.-born non-Hispanic Asian	0.001370 (0.002035)	0.001345 (0.0008649)	-0.001926 (0.001628)
Any U.S.-born non-Hispanic Some Other Race	0.003441 (0.005410)	D	0.007751 (0.003439)
Any U.S.-born non-Hispanic Two or More Races	0.001887 (0.002257)	0.0008980 (0.001080)	0.002330 (0.002548)
Any U.S.-born Hispanic	0.008258 (0.001407)	0.0004743 (0.0005808)	0.002476 (0.0009684)
Any LA-born naturalized citizen	0.00004700 (0.002561)	0.001037 (0.0009794)	-0.003357 (0.001859)
Any non-LA-born naturalized citizen	0.005738 (0.001286)	0.002601 (0.0006246)	0.0001168 (0.001016)
Any LA-born noncitizen with SSN	0.01087 (0.001953)	0.002828 (0.0008057)	0.003434 (0.001538)
Any non-LA-born noncitizen with SSN	0.003405 (0.001422)	0.001304 (0.0005563)	0.001421 (0.001073)
Any ITIN	0.008797 (0.001935)	0.003006 (0.0008497)	0.006858 (0.001406)
Any missing race/ethnicity/citizenship	0.002496 (0.001297)	0.001373 (0.0007217)	-0.001103 (0.001178)
No administrative data	0.005774 (0.002726)	0.001895 (0.001091)	0.003323 (0.001527)

Notes: This is a multinomial regression with a base category of no break-off and a citizenship question response was provided for all members of the household roster. All the control variables in Table 1 are included. These are marginal effects. Standard errors using 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5 are in parenthesis. The regression includes controls. Variable definitions are in Table 1. The indented "Has citizenship question" rows are interactions between "Has citizenship question" and the variable immediately preceding it. "D" signifies that the cell is suppressed because of disclosure rules. The number of observations is 79,500. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 20. Mail Return Citizenship Item Response Logistic Regressions with Tract-Level Variables

	Marginal effect	Standard error
Tract Low Response Score regression		
Tract Low Response Score	-0.2344	0.01840
Tract Hispanic share regression		
Tract proportion Hispanic	-0.05506	0.003703
Tract foreign-born share regression		
Tract proportion foreign-born	-0.08796	0.005406
Tract noncitizen share regression		
Tract with medium noncitizen share	-0.01345	0.002911
Tract with high noncitizen share	-0.03223	0.002000

Notes: The dependent variable equals 1 if there is a citizenship question response for all people in the household roster, and 0 otherwise. Tract variable definitions are in Table 1. The sample is households where a mail return is the chosen response. The standard errors use 80 balanced repeated replicate survey weights and a Fay's adjustment of 0.5. The number of observations is 34,500. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 21. Percent Mail Return Citizenship Question Nonresponse

	Percent Nonresponse
All	4.49
All citizen	3.37
Any noncitizen	11.61
Mixed citizen and noncitizen	12.10
All noncitizen	9.33
All U.S.-born non-Hispanic White	2.76
Any U.S.-born non-Hispanic Black	6.36
Any U.S.-born non-Hispanic AIAN	5.04
Any U.S.-born non-Hispanic Asian	7.97
Any U.S.-born non-Hispanic Some Other Race	8.54
Any U.S.-born non-Hispanic Two or More Races	7.44
Any U.S.-born Hispanic	10.34
Any LA-born naturalized citizen	12.74
Any non-LA-born naturalized citizen	6.85
Any LA-born noncitizen with SSN	17.56
Any non-LA-born noncitizen with SSN	8.39
Any ITIN	15.92
Mixed ITIN and SSN	16.10
All ITIN	13.84
Any Missing race/ethnicity/citizenship	10.07
No administrative data	4.25

Notes: The dependent variable equals 1 if there is a citizenship question response for all people in the household roster, and 0 otherwise. The percentages are survey-weighted. Variable definitions are in Table 1. The number of observations is 34,500. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).

Table 22. Mail Return Citizenship Question Response Logistic Regressions with Household-Level Variables

	No controls		With controls	
	Marginal effect	Standard error	Marginal effect	Standard error
Any U.S.-born non-Hispanic Black	-0.02119	0.002989	-0.01670	0.003279
Any U.S.-born non-Hispanic AIAN	-0.002921	0.01059	0.0009721	0.01064
Any U.S.-born non-Hispanic Asian	-0.01042	0.007216	-0.004035	0.007062
Any U.S.-born non-Hispanic Some Other Race	-0.01797	0.01330	-0.01545	0.01323
Any U.S.-born non-Hispanic Two or More Races	-0.01763	0.007543	-0.01145	0.007628
Any U.S.-born Hispanic	-0.02403	0.003406	-0.01592	0.003591
Any LA-born naturalized citizen	-0.01033	0.005173	-0.005497	0.005297
Any non-LA-born naturalized citizen	-0.01433	0.004649	-0.01034	0.004850
Any LA-born noncitizen with SSN	-0.04001	0.004972	-0.02966	0.005050
Any non-LA-born noncitizen with SSN	-0.02211	0.004161	-0.01599	0.004353
Any ITIN	-0.01190	0.005164	-0.007185	0.005529
Any missing race/ethnicity/citizenship	-0.03248	0.002866	-0.01275	0.003749
No administrative data	-0.01562	0.004031	-0.01558	0.005799

Notes: These are logistic regressions with a dependent variable equal to 1 if there is a citizenship question response for all people in the household roster, and 0 otherwise. Variable definitions are in Table 1. The indented “Has citizenship question” rows are interactions between “Has citizenship question” and the variable immediately preceding it. These are marginal effects. Standard errors using 80 balanced repeated replicate survey weights and a Fay’s adjustment of 0.5 are in parenthesis. The number of observations is 34,500. The data presented in this table are approved for dissemination by the DRB (CBDRB-FY24-CES019-008).