

Public Attitudes Toward the Use of Administrative Records in the U.S. Census: Does Question Frame Matter?

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Abstract

Keywords: Census, Administrative Records, Mindsets, Communications Campaign

Due to the increasing and unsustainable cost of conducting censuses in the traditional manner, the Census Bureau is looking to leverage administrative records housed elsewhere in the government to supplement and/or replace costly nonresponse followup operations in future censuses. Before embarking on this new methodology, the agency must be mindful of public opinion as it poses new concerns about privacy, confidentiality, and informed consent. Previous research presents a somewhat conflicting picture of the topic – on one hand, public favorability toward the use of administrative records looks to be declining (Singer, Bates, Van Hoewyk, 2011). On the other hand, a recent study of public willingness to grant informed consent to record use paints a more optimistic picture (Pascale, 2011).

In summer 2011, the Census Bureau conducted the second iteration of a survey designed to understand public attitudes toward the decennial census and the potential barriers and motivators to participating in the census. Included in the survey was a set of questions to evaluate overall attitudes toward using administrative records and various options for communicating the use of administrative records to the public. The instrument used a randomly assigned split-ballot questionnaire that presented three different framing contexts: framing the use of administrative records in terms of a cost savings, a decreased burden, and a control in which the questions are asked without reference to any benefits. Results enable the Census Bureau to better understand public opinion about the use of administrative records and how the agency might go about communicating the new method. Ultimately, the Census Bureau will use these results to inform the 2020 Census communications campaign and will allow administrative records usage messaging to be tailored to different segments of the population.

Introduction and Background

Over the last two decades, the cost of providing credible economic and social statistics for the U.S. population and businesses has increased dramatically. Increased difficulty contacting respondents, lower cooperation rates, and declining Federal government budgets all play a part. These factors combined with continually increasing business, state, and local demand for timely statistics has led to a profound conclusion -- “the current Census Bureau survey and census methods are simply unsustainable” (Groves, 2011).

One cost-saving alternative is to collect data without direct participation by persons. This involves tapping data from administrative records previously collected for other purposes, for example, income tax records, social security records, and government program participation records such as food stamps, housing subsidy records, and Medicare/Medicaid records. Many industrialized countries have successfully developed new, less expensive methods using existing data from population registers to conduct their censuses. For example, Denmark, the Netherlands, and Finland have been using data from administrative population registers to conduct censuses since the 1980’s and early 1990’s (Mulalic, 2011; Asher, 2010), and Sweden is working on conducting their first records-only census (Jansson et al., 2011). Several other European countries including the Czech Republic, Estonia, Italy, Latvia, Lithuania, and Spain use a combination of registers and field enumeration simultaneously (Valente, 2010).

¹ *Disclaimer:* This report is released to inform interested parties of research and to encourage discussion. The views expressed are those of the authors and not necessarily those of the Census Bureau.

Currently, the Census Bureau is also looking to leverage administrative records housed elsewhere in the government to supplement and/or replace costly operations such as personal visit interviews. The Census Bureau has acquired combinations of administrative records and also developed efficient matching procedures that allow a powerful merge of administrative records with survey reports. Simply put, there is great potential to reduce overall costs. However, use of administrative records comes with a new set of challenges, for example, potential coverage problems, and concerns about accuracy. Furthermore, the agency must be mindful of public attitudes as it develops this new methodology. Use of administrative records poses concerns about privacy, confidentiality, and the perceived accuracy of using records in place of direct survey reports. How does the public perceive the trade-off between administrative records and privacy/confidentiality? As Madans (2011) notes “this is a key issue which has not been given sufficient attention but one which could determine how administrative records can best be incorporated into the production of national statistics”.

Also of interest is the concept of informed consent. In the context of a federal statistical agency swapping (or augmenting) administrative records for survey or census responses, informed consent “refers to a person’s agreement to allow personal data to be provided for research and statistical purposes” (National Research Council, 1993). In the U.S., a complex set of laws contain a number of requirements about informing individuals about how agencies will use and share the data they collect. A recent subcommittee of the Federal Committee on Statistical Methodology researched these statutes and provided numerous recommendations to facilitate data sharing and linking. In the report, the authors emphasize that “understanding how respondents react to informed consent notifications is critical to the process of obtaining that informed consent” (FCSM, 2011). One recent example is an experiment testing a notification of administrative record use in the 2010 Census mailing package – in this case, there were no adverse effects on unit nonresponse reported (see Hill, et al., 2011).

As interest and use of administrative records has increased, a growing (albeit still small) body of survey literature exists around the topic of informed consent. One aspect of the research involves the fact that respondent consent to record use is not universal. If significant differences exist between consenters and non-consenters, this can lead to bias in the critical estimates of interest. Such studies typically seek to identify and understand the characteristics of those willing to consent versus not. For example, Korbmacher (2011) found that the respondent’s age and response to a household income question were correlated with consent, while Burton, Sala, and Knies (2011) found that respondents’ propensity to consent is related to privacy attitudes and community-mindedness. Likewise, Bates, and Pascale (2005) also found support for the hypothesis that privacy/confidentiality concerns can predict likelihood of consent. Tate, Calderwood, and Dezateux (2006) found that consent differed by demographic identifiers such as mother’s country of residence, age, and education. Pascale (2011) also reports that age and education is associated with level of consent.

The above studies reflect outcomes from ‘real-life’ informed consent requests, that is, the researcher asks informed consent to pull a respondent’s administrative record for purposes of linking to survey data or in place of asking a direct report. In this case, actual (i.e., behavioral) consent is observed. Another body of literature is based on a hypothetical or more indirect measure of consent. In these studies, survey researchers gauge respondent favorability toward data linkage not by directly asking for consent but by asking for hypothetical consent and then examining the demographic and other characteristics associated with obtaining consent. A recent example is Singer, Bates, and Van Hoewyk (2011) which reported that, in a hypothetical context, younger persons, women, wealthier respondents and persons with high trust in government and low privacy concerns were more likely to favor use of administrative records to supplement or improve the decennial census.

Studies of informed consent and attitudes toward record use also commonly include some type of *framing* experiment. In these cases, the survey poses questions about administrative record use (or informed consent to use administrative records) under a different set of circumstances or rationales. Such questionnaire design tests inform us if the desired outcome is higher or lower when framed in a particular context. For example Pascale (2011) framed informed consent to link survey answers with administrative records under three conditions: to improve accuracy of the results, to reduce costs, or to reduce respondent burden. While she found high overall levels of consent to linkage, she found no evidence that one frame yielded higher consent rates than another. Likewise, Singer, Bates, and Van Hoewyk (2011) also tested a cost versus accuracy frame when asking if respondents favored or opposed replacing decennial census forms with administrative data. They found that neither frame was very successful in persuading those who were opposed initially to the idea of swapping direct reports for administrative records.

In this paper, we report level of public favorability towards the hypothetical use of administrative records to enumerate households that fail to complete a census self-report. Additionally, we report results from a framing experiment whereby three different perspectives are offered: a *control* condition where no rationale was offered for the swap, a *cost* condition where a taxpayer savings is implied, and a *burden* condition where reduced respondent burden is implied. We expect these findings to inform how the Census Bureau constructs its communication outreach and plans to expand administrative record use to the next level.

Previous Communications Research

For the second time ever, in 2010, the Census Bureau conducted the decennial census using paid advertising as part of a multi-million dollar communications campaign designed to educate the population about the decennial census and motivate participation by mail. Designing a campaign suitable to reach a complex and diverse audience was no simple undertaking; to prepare, the Communications Directorate launched a series of qualitative, quantitative, attitudinal, and behavioral research initiatives including audience segmentation and the Census Barriers, Attitudes, and Motivators Survey (CBAMS).

The audience segmentation research conducted prior to the 2010 Census delineated easy-to-count populations from the hard-to-count (HTC) as defined at the census tract level. It also helped to define the underlying constructs of HTC populations. In all, eight mutually exclusive segments were produced to help plan, target, and implement the 2010 Census integrated communications campaign (Bates and Mulry, 2011). While audience segmentation answered questions about who the HTC are and where they reside, it did not provide any insight into why a segment may be less inclined to participate. To fill this gap, the Census Bureau commissioned the CBAMS.

CBAMS, conducted in July and August 2008 to 4,064 respondents via in-person, landline telephone, and cellular telephone interviews, measured attitudes towards and knowledge of the decennial census, potential motivators and barriers to participation, ranking of potential messages, media consumption, and demographic information. CBAMS revealed five distinct mindsets among the population that varied in their knowledge of and attitudes toward the decennial census: Leading Edge, Head Nodders, Insulated, Unacquainted, and Cynical Fifth.²

The information garnered from audience segmentation and CBAMS enabled the Census Bureau to funnel messaging and resources to each audience cluster relative to its propensity to respond by mail and with messaging that spoke to each groups' unique motivators to overcome perceived barriers to participation. Through the process, the Census Bureau, still new to the field, realized the importance of communications research to its mission. With the conclusion of the 2010 Census, the Communications Directorate began planning a roadmap for robust communications research efforts beginning immediately and leading up to the 2020 Census communications campaign development.

This approach is critical for multiple reasons: (1) the Census Bureau's target audience, unlike any other entity, is the entire population of the United States;(2) the entire country is currently in the midst of a unique political and economic climate that may affect willingness to cooperate; and (3) the use of administrative records is gaining popularity as a cost saving measure that can also increase accuracy but which may evoke privacy and confidentiality concerns. Understanding how to communicate the Census Bureau's message successfully in light of these obstacles will take considerable time and effort. We began the process by commissioning the second iteration of CBAMS (CBAMS II).

The research goals for CBAMS II were to:

- i. Determine whether or not the CBAMS I mindsets have changed since the implementation of the 2010 Census Integrated Communications Program (ICP);
- ii. Assess whether or not we can categorize mindsets differently moving forward, and if yes, find the best method for identifying census mindsets;
- iii. Understand the profiles of the new mindsets; and
- iv. Measure attitudes related to the possible use of administrative records to supplement future censuses.

² For detailed information on CBAMS mindsets see Bates et al., 2009.

The CBAMS II report contains detailed analysis of research goals i-iii above (MACRO, 2011). In this paper, we focus on the fourth research goal -- understanding attitudes and consent of the Census Bureau's proposed use of administrative records in a decennial census. Specifically, we explore:

- i. Does favorability toward administrative record use depend on how the question is framed?
- ii. Does favorability vary by respondent demographics? By mindsets?
- iii. Does the effect of framing vary by respondent demographics or by mindsets?
- iv. Assuming we find frame differences, how can we leverage these differences to devise a communication strategy and tailor messages?

CBAMS II Methodology

Macro International, under contract to the Census Bureau, fielded CBAMS II from May through July, 2011. CBAMS II was a nationally representative multi-mode survey that utilized landline and cell phone interviewing along with in-person interviews in areas considered particularly hard-to-count (HTC): American Indian Reservations, sites with high Hispanic population density, sites with high Asian population density, and rural areas with high poverty. As in CBAMS I, the landline survey sample was stratified into high, medium, and low HTC tracts located within big, medium, and small designated market areas (DMAs) to ensure that the sample captured various levels of HTC populations.

In-person interviews were conducted in English, Spanish, Vietnamese, and Chinese, while telephone interviews were only conducted in English and Spanish. For the RDD sample that could be matched to an address, Macro mailed pre-notification letters alerting residents they were in-sample for CBAMS II; the pre-notification letters were sent to all addresses in the personal visit sample. To increase cooperation, a \$10 cash gift was offered to in-person respondents. Participation was not required, but at least one person in the household needed to complete the screener in order to determine the selected respondent.

Macro conducted a total of 4,071 completed interviews including 2,004 landline telephone interviews, 995 cell phone interviews, and 1,071 in-person interviews. The combined response rate was 33.6% (in-person 64%; landline 26%; and cell phone 16%).³ For a more detailed description of the methodology, questionnaire, sample design, and weighting approach see the CBAMS II Final Report (Macro, 2011).

The CBAMS II questionnaire was revised from the CBAMS questionnaire to support the CBAMS II research goals while allowing enough overlap to support comparisons between the two iterations. The CBAMS II survey instrument measured constructs such as census knowledge, attitudes, and awareness; self-reported response to the 2010 Census; barriers and motivators to participation; phone and internet usage; and attitudes toward the potential use of administrative records to complete future censuses. On average, respondents completed the survey in 25 minutes.

The 2011 Mindsets

The results of CBAMS II suggest that mindsets have changed from CBAMS I and can be categorized differently moving forward. We compared the results of three statistical approaches to mindset creation: Latent Class analysis (LCA), Q-Factor analysis, and K-Means analysis, and the following psychographic and demographic breakdowns are based on LCA, which we chose as the best method for creating the new mindsets.⁴ The number of mindsets increased from five in CBAMS I to seven in CBAMS II. Seven mindsets allowed us to further differentiate groups with negative and positive views of the census while still producing actionable group sizes (i.e., the jump from seven to eight mindsets resulted in one group that only accounted for a very small percentage of the population, which is not practical from an advertising standpoint.). The final CBAMS II mindsets are:

Government-Minded (19%)

This group is characterized by positive attitudes toward the census and its purpose. Eighty-nine percent of this group knows that the decennial census is used to determine political representation and is set apart by the high priority they

³ Response rates calculated using AAPOR RR3 (AAPOR, 2010).

⁴ See the CBAMS II Final Report (Macro, 2011) for an in depth discussion of the mindset creation process.

place on it. They also care about government administrative functions in fire and police stations, on roads and highways, and for public transportation. They care less than other groups about “softer” issues such as healthcare and childcare.

Additionally, they are not concerned about sharing their information with the government and see the government’s attempts to collect information as important to government functions. They also know better than any other group what the census is not used for. This mindset is also:

- Married (62%; average = 54%),
- White, not Hispanic (84%; average = 68%),
- Born in the United States (91%; average = 84%),
- Speaks English-only at home (4% Speak language other than English at home; average = 11%),
- Educated: attended college or more (45%; average = 27%),
- Higher income (30% income < \$50K; average = 52%), and
- Use the Internet (94%; average = 80%).

Compliant and Caring (15%)

This mindset is also characterized by high affinity for the census and is quite similar to the *Government-Minded* segment; however, unlike that group, they do not put a high priority on political representation, feeling more strongly about social programs like those in schools and for elder care. This mindset is also:

- Female (64%; average = 51%),
- Less likely to be single (21%; average = 27%), and
- Higher income (45% income < \$50K; average = 52%).

Dutiful (14%)

While the first two high-affinity groups are characterized by a commitment to the specific goals of the census and have positive feelings related to the census, this mindset is characterized by a sense of duty to complete the census. They know what the census is for, although they also think it serves some functions that it actually does not. They do not have strong priorities for the political distribution of funds, but they do think it is their responsibility to be counted. This group resembles the general population of the United States; they represent diversity in sex, education, race, and socioeconomic background:

- Married (55%; average = 54%),
- White, not Hispanic (70%; average = 68%),
- Black, not Hispanic (11%; average = 12%)
- Born in the United States (86%; average = 84%), and
- Age over 54 (33%; average = 32%).

Local-Minded (12%)

This group incorrectly identifies some of the purposes of the census, believing that it helps to track lawbreakers and is used for setting taxes. People in the *Local-Minded* group also tend to be ambivalent toward government, reporting that they tend to trust local governments more than the Federal Government, and they tend to think that refusing to complete the census is a good way to show the government that they are dissatisfied. At the same time, they tend to think that the government keeps their information safe, and that it has their best interests in mind. This group does not prioritize representation in government, but they do tend to care about schools, healthcare, and other soft issues. This group is also:

- Female (65%; average = 51%),
- Have children at home (47%, average = 39%),
- Less educated:
 - No high school degree (20%; average = 14%),
 - Attended college or more (17%; average = 27%),
- Diverse:
 - Black, not Hispanic (19%; average = 12%),
 - Hispanic (23%; average = 14%),

- White, not Hispanic (49%; average = 68%),
- Immigrants (70% born in the U.S.; average = 84%),
- Speaks a language other than English at home (22%; average = 11%),
- Low-income (70% had income < \$50k; average = 52%),
- Renters (36%; average = 27%), and
- Less likely to use the Internet (68%; average = 80%).

Uninformed (16%)

People in this mindset cannot reliably report what the census is actually used for. Only about half of these people know that the census helps to determine government representation, and they are similarly poor at reporting the other uses for the census. This group tends to think that they will never see the results of the census, and that it should only ask about the number of household residents. Compared to others, this group is not very concerned about their personal information, but they prefer not to complete the census on the Internet. They also tend to put a high priority on healthcare and on care for the elderly. This mindset is also:

- Less educated:
 - No high school degree (24%; average = 14%),
 - Attended college or more (16%; average = 27%),
- Low income (67% had incomes < \$50k; average = 52%), and
- More likely to speak a language other than English at home (17%; average = 11%).

Cynical (10%)

This mindset is aware of the census, knows what it is used for, and is highly suspicious of it and of the government. Across all measures, the *Cynical* group has the lowest opinion of the government and expresses the most concern about the security of their personal information. Like the *Government-Minded* group, however, they place a premium on political representation and on government functions like fire and police protection. This mindset is also:

- White, not Hispanic (82%; average = 68%),
- Males (67%; average = 49%),
- Born in the United States (92%; average = 84%),
- Speaks English only at home (97%; average 89%),
- Married (61%; average = 54%), but less likely to have children at home (34%; average = 39%),
- Older (39% over age 54; average = 32%), and
- Have a higher income (41% income < \$50K; average = 52%).

Suspicious (14%)

This mindset has the lowest self-reported intent to respond to the census, and has the lowest self-reported census awareness. Overall, they also tend to be less likely than other groups to complete paperwork on time. This group is not characterized by any particular political funding priorities and are the most likely to believe that the census can harm them. This group is also:

- Young (Mean age = 39),
- Single (43%; average = 27%),
- Mobile:
 - Rent their homes (35%; average = 12%),
 - Have only a cell phone (38%; average = 30%),
- Diverse:
 - Hispanic (20%; average = 14%),
 - Black, not Hispanic (16%; average = 12%),
 - White, not Hispanic (54%; average = 68%),
- Less educated:
 - No high school degree (26%; average = 14%),
 - Attended college or more (13%; average = 27%),
- Less savvy about technology:

- Use the Internet (68%; average = 80%), and
- Use the Internet for social networking (71%; average = 64%).

Results

The CBAMS II survey items of interest involved a section on the Census Bureau's use of administrative records in the context of the decennial census. To understand if answers vary by the context in which the request was presented, a framing experiment was embedded in the survey. Respondents were randomly assigned to one of three different panels: a CONTROL frame, whereby no rationale or justification was presented, a COST frame that suggested administrative records would save money, and a BURDEN frame that suggested the request would ease respondent burden. Specifically, the instrument asked how positive or negative respondents were to the idea of (1) the Census Bureau using government records to obtain information for households that didn't mail back a census form, (2) allowing the Census Bureau to use SSNs to obtain information from other agencies, and (3) preference for having an interviewer visit homes to get information versus supplying the information from other government records. The three frames for the first item were:

GET_RECORDS CONTROL FRAME: The Census Bureau is thinking about getting sex, age, date of birth, and race information from government records for people who don't mail back their census forms next time. Suppose you didn't send back your census form for one reason or another. On a scale from 1 to 5 where 1 is completely negative and 5 is completely positive, how do you feel about the Census getting your information from other government records?

GET_RECORDS COST FRAME: The 2010 Census cost over \$10 billion. The Census Bureau is looking at saving money next time by getting sex, age, date of birth, and race information from government records for people who don't mail back their census forms. Suppose you didn't send back your census form for one reason or another. On a scale from 1 to 5 where 1 is completely negative and 5 is completely positive, how do you feel about the Census saving money by getting your information from other government records?

GET_RECORDS BURDEN FRAME: Some people think that filling out and mailing back a census form is too much trouble. The Census Bureau is looking at ways to make the census easier next time by getting sex, age, date of birth, and race information from government records for people who don't mail back their census forms. Suppose you didn't send back your census form for one reason or another. On a scale from 1 to 5 where 1 is completely negative and 5 is completely positive, how do you feel about the Census making things easier by getting your information from other government records?

For this item, we first examine all three frames combined and focus on the positive percent, that is, those selecting a 4 or 5 along the 5 point scale. We see that less than a majority (43.2 percent) indicate they are positive toward the idea of the Census Bureau substituting administrative records in cases where a household fails to mail back their census form (Table 1A). However, looking within the frame experiment, we find that significantly more respondents are positive to the idea when it is presented as a cost saving measure (48.2 percent), compared to when no justification is present (control = 37.6 percent). When presented within the context of reducing burden, the level of positive ratings (43.4 percent) is higher than the control but the difference is not statistically different from either the control or cost frame.

Looking across demographic characteristics, we found, compared to the CONTROL, the COST frame consistently elicited higher favorability toward record use by both males and females, among those 25-34, and for non-Hispanic whites (see Tables 1A and 1B). Turning to the effectiveness of the burden frame, ratings were higher than the control for those 18-24 and for Hispanics.

Table 1A. How do you feel about Census getting your information from other government records?
(% top 2 box on 5 point rating scale)

Frame		Total	Male	Female	18-24	25-34	35-44	45-54	55-64	65+
Total	n	4011	1754	2255	330	577	592	731	804	878
		43.2	42.8	43.6	38.9	44.1	48.0	42.9	42.1	44.0
		(±2.4)	(±3.5)	(±3.3)	(±7.3)	(±6.1)	(±6.2)	(±5.7)	(±5.7)	(±5.5)
Cost	n	1370	566	804	116	182	205	252	287	294
		48.2	47.2	49.0	42.8	49.8	52.6	47.2	44.3	51.3
		(±4.2)	(±6.4)	(±5.6)	(±12.3)	(±10.9)	(±10.3)	(±10.5)	(±9.4)	(±9.3)
Burden	n	1332	625	705	116	192	203	236	262	285
		43.5	43.7	43.2	45.0	47.4	46.6	39.1	46.2	41.1
		(±4.2)	(±5.9)	(±6.1)	(±12.9)	(±10.7)	(±10.7)	(±9.9)	(±10.2)	(±9.7)
Control	n	1309	563	746	98	203	184	243	255	299
		37.6	36.8	38.2	26.2	35.2	43.2	43.3	36.0	39.0
		(±4.2)	(±6.2)	(±5.6)	(±12.1)	(±9.9)	(±11.5)	(±9.4)	(±10.0)	(±9.5)

Table 1B. How do you feel about Census getting your information from other government records?
(% top 2 box on 5 point rating scale)

Frame		Total	Hispanic	NH Black	NH White
Total	n	4011	618	523	2137
		43.2	40.3	42.4	43.7
		(±2.4)	(±6.2)	(±7.2)	(±3.0)
Cost	n	1370	209	172	745
		48.2	39.2	36.3	51.9
		(±4.2)	(±10.5)	(±12.0)	(±5.2)
Burden	n	1332	209	178	688
		43.5	49.1	52.9	40.9
		(±4.2)	(±10.9)	(±13.3)	(±5.2)
Control	n	1309	200	173	704
		37.6	30.8	38.8	38.1
		(±4.2)	(±10.1)	(±11.5)	(±5.2)

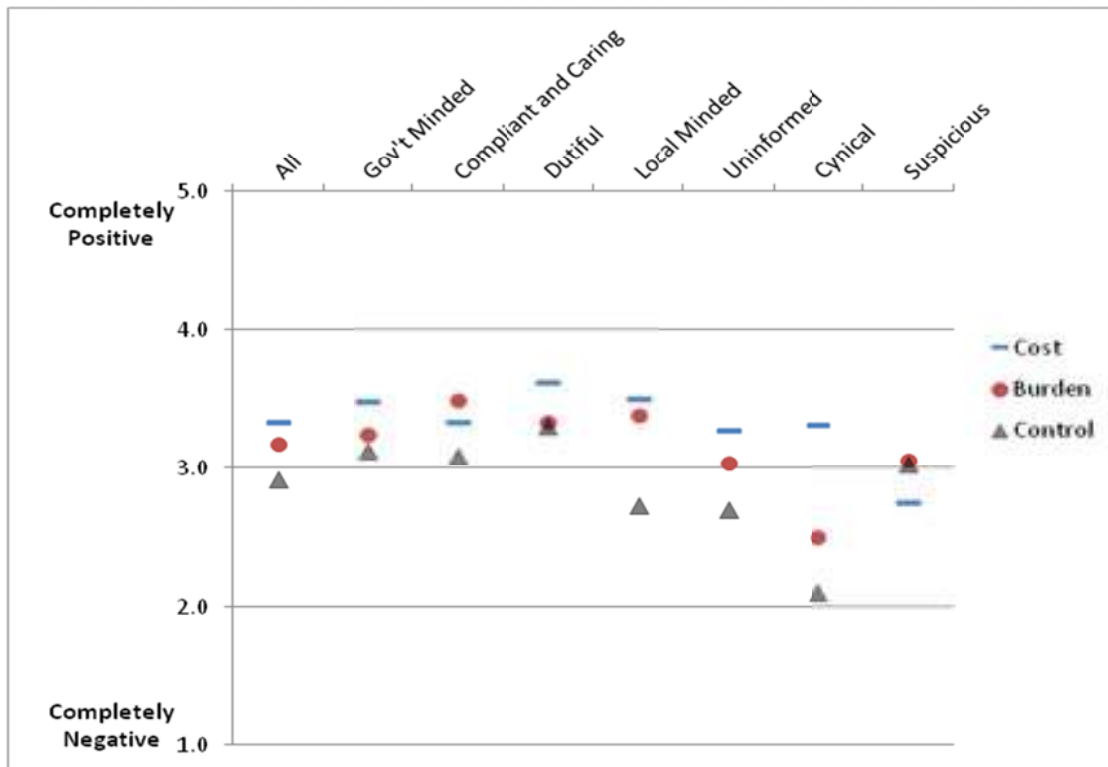
Turning to the mindsets, we found only two (Government-Minded and Dutiful) had a majority with positive response to use of administrative records as a substitute (50.6 percent and 51.1 percent based on all three frames, respectively. See Table 1C). We found that positive ratings were conditional upon frame for a few groups. Specifically, the Local-Minded and Cynical were significantly more positive to record use when presented in the cost-saving frame compared to the control (56.7 percent and 50.6 percent, respectively, versus 34 percent and 9.9 percent for control).

Overall, the Cynical group gave the lowest positive rating to administrative record use as a substitute for direct reports (28.9 percent were positive based on all three frames combined). However, there was a great deal of variation for this group depending upon frame. As noted above, around half (50.6 percent) of the Cynical were positive when the item was couched as a cost-saver; just over one-quarter were positive when presented as a burden reducer; and only around one in ten (9.9 percent) were positive when asked without any benefit context (control frame). For this group, both the BURDEN and COST garnered significantly higher rating than the control with COST edging out BURDEN. For the other mindsets, differences between frames were not significantly different albeit the small sample sizes undoubtedly play a part. See Figure 1 for a graph of the mean ratings by mindset.

Table 1C. How do you feel about Census getting your information from other government records?
 (% top 2 box on 5 point rating scale)

Frame		Total	Gov't Minded	Compliant & Caring	Dutiful	Local Minded	Uninformed	Cynical	Suspicious
Total	n	4011	730	666	516	495	728	343	533
		43.2	50.6	47.5	51.1	46.1	37.0	28.9	35.1
		(±2.4)	(±5.4)	(±6.0)	(±6.6)	(±7.3)	(±5.8)	(±7.0)	(±6.8)
Cost	n	1370	248	222	185	167	242	125	181
		48.2	54.9	46.9	56.1	56.7	40.8	50.6	29.4
		(±4.2)	(±9.2)	(±10.4)	(±11.0)	(±11.9)	(±10.2)	(±13.5)	(±10.8)
Burden	n	1332	234	238	180	154	237	103	186
		43.5	51.6	52.8	48.6	45.0	36.8	26.6	35.1
		(±4.2)	(±9.7)	(±10.1)	(±11.5)	(±14.0)	(±10.1)	(±11.6)	(±11.6)
Control	n	1309	248	206	151	174	249	115	166
		37.6	44.7	41.5	48.6	34.0	32.7	9.9	40.9
		(±4.2)	(±9.4)	(±10.3)	(±11.7)	(±11.4)	(±10.2)	(±6.9)	(±12.4)

Figure 1. How do you feel about Census getting your information from other government records?
 (Mean Ratings by Frame and Mindset)



In sum, overall both cost and burden levels of favorability were higher than the control, but there was no significant difference between cost and burden. However, among subgroups where there were statistically significant differences, it was usually the cost frame that was more effective than the control but not always; for a few subgroups burden was higher than control. However, among the handful of subgroups where there was a significant difference between cost and burden, cost was always more favorable.

The second item with a clean frame test was presented as follows:

CHOICE COST FRAME: *If you have to choose, would you prefer that the Census save money by getting your household's information from other government records or would you prefer that the Census spend more to send an interviewer to your home to ask for it?*

CHOICE BURDEN FRAME: *If you have to choose, would you prefer that the Census make things easier by getting your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask for it?*

CHOICE CONTROL FRAME: *If you have to choose, would you prefer that the Census gets your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask for it?*

Examining all three frames combined, we see that less than half (41.5 percent) indicate a preference for use of administrative records in place of a personal interviewer visit (see Table 2A). However, the level of preference was conditional upon whether COST or BURDEN was emphasized. COST garnered the highest preference (56.9 percent preferred using records to a personal visit) followed by BURDEN (38.5 percent) followed by the control (28.2 percent). Unlike in the previous item, for this item the COST frame was always more effective than the BURDEN frame.

Males and females expressed similar preference levels for administrative records over personal visits (43.8 percent and 39.4 percent, respectively). For males and females, both the COST and BURDEN frame were more effective than the CONTROL, and the COST frame was more effective than the BURDEN frame. Across all age groups the COST frame was more effective than the CONTROL. Among those aged 35-64, the BURDEN frame also resulted in significantly more choosing administrative records compared to the CONTROL.

Table 2A. If you have to choose, would you prefer that the Census gets your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask for it?
(% prefer records over personal visit)

Frame		Total	Male	Female	18-24	25-34	35-44	45-54	55-64	65+
Total	n	3793	1659	2132	315	556	564	695	755	830
		41.5	43.8	39.4	49.1	44.3	47.5	41.4	32.2	35.4
		(±2.5)	(±3.7)	(±3.4)	(±7.7)	(±6.2)	(±6.4)	(±5.8)	(±5.4)	(±5.5)
Cost	n	1284	532	752	109	174	196	233	266	275
		56.9	59.6	54.5	63.6	56.1	62.9	59.3	46.0	53.3
		(±4.3)	(±6.4)	(±5.8)	(±12.9)	(±11.1)	(±9.9)	(±10.6)	(±10.0)	(±9.7)
Burden	n	1263	596	665	111	185	192	226	249	273
		38.5	39.9	36.8	45.9	41.7	45.2	40.6	36.6	23.0
		(±4.3)	(±6.1)	(±6.2)	(±13.1)	(±10.8)	(±11.1)	(±10.4)	(±10.4)	(±8.2)
Control	n	1246	531	715	95	197	176	236	240	282
		28.2	31.2	25.7	34.7	35.7	28.4	26.9	14.7	28.8
		(±3.9)	(±6.0)	(±5.2)	(±13.4)	(±10.1)	(±10.4)	(±8.3)	(±6.1)	(±9.5)

Among the major race/ethnic groups, we found that for Hispanics, framing did not significantly affect preference for using administrative records in place of personal visits (Table 2B). However, non-Hispanic blacks and non-Hispanic whites expressed higher preference under the cost-saving scenario (51.3 percent and 62.7 percent respectively,) compared to the control. Among non-Hispanic whites the BURDEN frame was also more effective than the CONTROL frame (42.1 percent versus 28.3 percent). Finally, among non-Hispanic whites and blacks, the COST frame was significantly more favorable than the BURDEN frame.

Table 2B. If you have to choose, would you prefer that the Census gets your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask for it?
(% prefer records over personal visit)

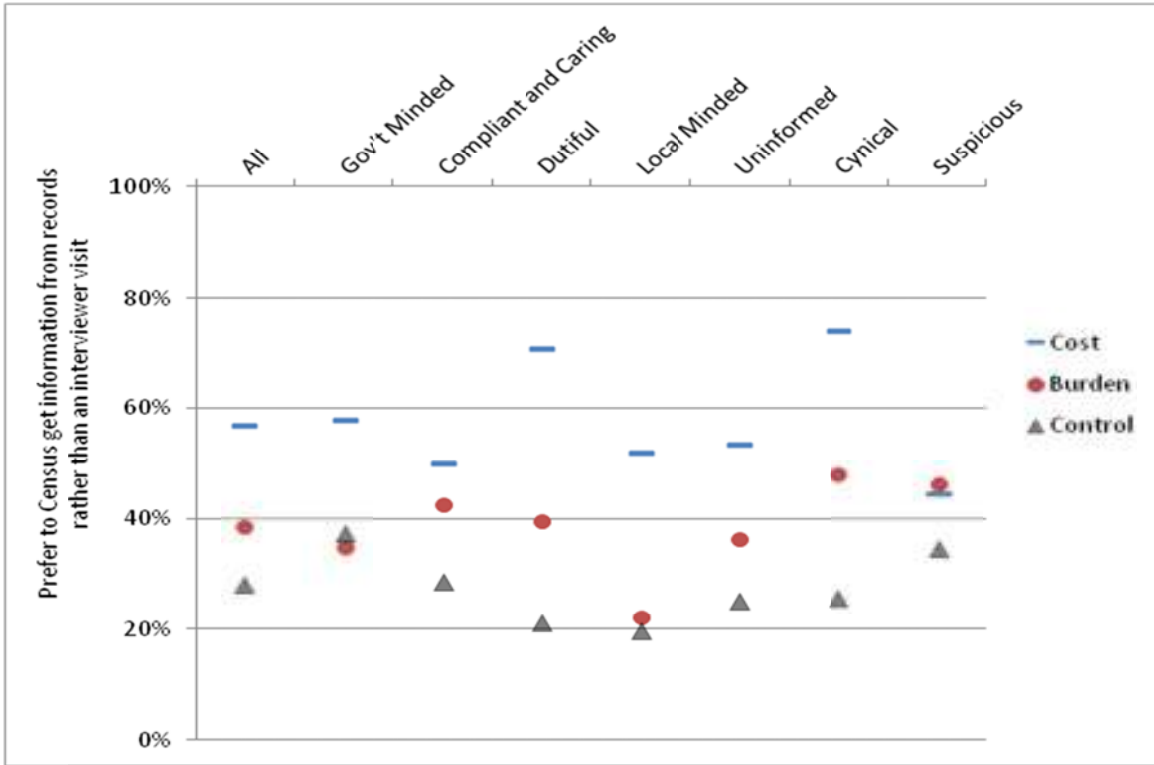
Frame		Total	Hispanic	NH Black	NH White
Total	n	3793	593	491	2028
		41.5	30.7	34.3	44.8
		(±2.5)	(±5.8)	(±7.2)	(±3.1)
Cost	n	1284	195	159	703
		56.9	33.7	51.3	62.7
		(±4.3)	(±10.0)	(±13.4)	(±5.2)
Burden	n	1263	202	169	661
		38.5	32.8	30.2	42.1
		(±4.3)	(±10.3)	(±12.5)	(±5.5)
Control	n	1246	196	163	664
		28.2	24.6	21.2	28.3
		(±3.9)	(±9.5)	(±9.4)	(±4.8)

Table 2C. If you have to choose, would you prefer that the Census gets your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask for it?
(% prefer records over personal visit)

Frame		Total	Gov't Minded	Compliant & Caring	Dutiful	Local Minded	Uninformed	Cynical	Suspicious
Total	n	3793	700	637	497	478	676	311	494
		41.5	43.3	40.5	44.0	33.0	39.4	49.3	41.9
		(±2.5)	(±5.5)	(±6.0)	(±6.7)	(±6.8)	(±6.4)	(±8.4)	(±7.5)
Cost	n	1284	231	211	175	156	232	117	162
		56.9	57.9	50.0	70.7	51.9	53.4	73.9	44.5
		(±4.3)	(±9.5)	(±10.8)	(±10.0)	(±12.1)	(±10.9)	(±10.9)	(±13.4)
Burden	n	1263	229	225	178	150	217	88	176
		38.5	34.8	42.5	39.6	22.2	36.4	48.1	46.2
		(±4.3)	(±9.2)	(±10.6)	(±11.2)	(±10.7)	(±11.1)	(±15.3)	(±12.7)
Control	n	1246	240	201	144	172	227	106	156
		28.2	37.4	28.7	21.2	19.8	25.2	25.7	34.7
		(±3.9)	(±9.1)	(±9.6)	(±9.1)	(±9.5)	(±9.9)	(±12.2)	(±12.8)

Table 2C contains the percent expressing choice for administrative records over personal visit by frame by mindsets. With the exception of the Suspicious, the COST frame elicited higher preference for administrative records compared to the CONTROL. In some cases, the difference in the cost saving frame is dramatic, doubling or more the preference for using government records when compared to the CONTROL (i.e., for the Dutiful, Local-Minded, Uninformed, and Cynical, preference for using administrative records use was twice as much or higher). For the Suspicious, preference was not conditional upon the framing scenario. For both the Dutiful and Cynical, the BURDEN frame also produced higher preference for using administrative records (compared to CONTROL). In addition, for most of the mindsets (Government-Minded, Dutiful, Local-Minded, Uninformed, and Cynical), COST did better than BURDEN. Figure 2 contains a graphical presentation of the frame by mindset preference for records rather than interview visit. Here the interactions between frame and mindset can be clearly seen.

Figure 2: Preference for Administrative Records Use Rather than Interviewer Visit by Mindset



The third item asked about use of respondents social security number (SSN). As administrative record matching procedures become more and more sophisticated, the need for one's SSN to perform data linkage has decreased dramatically. Nonetheless, this item has been included on surveys in the past and serves as a benchmark for public sensitivity over unique identifiers – especially in light of increased concern around identify theft and data breaches. For this question all three panels asked identical wording without mention of a cost or burden savings:

SSN ALL THREE: On a scale of 1 to 5 where 1 is completely unwilling and 5 is completely willing, how willing would you be to allow the Census Bureau to use your Social Security Number to obtain your sex, age, date of birth, and race from other government agencies?

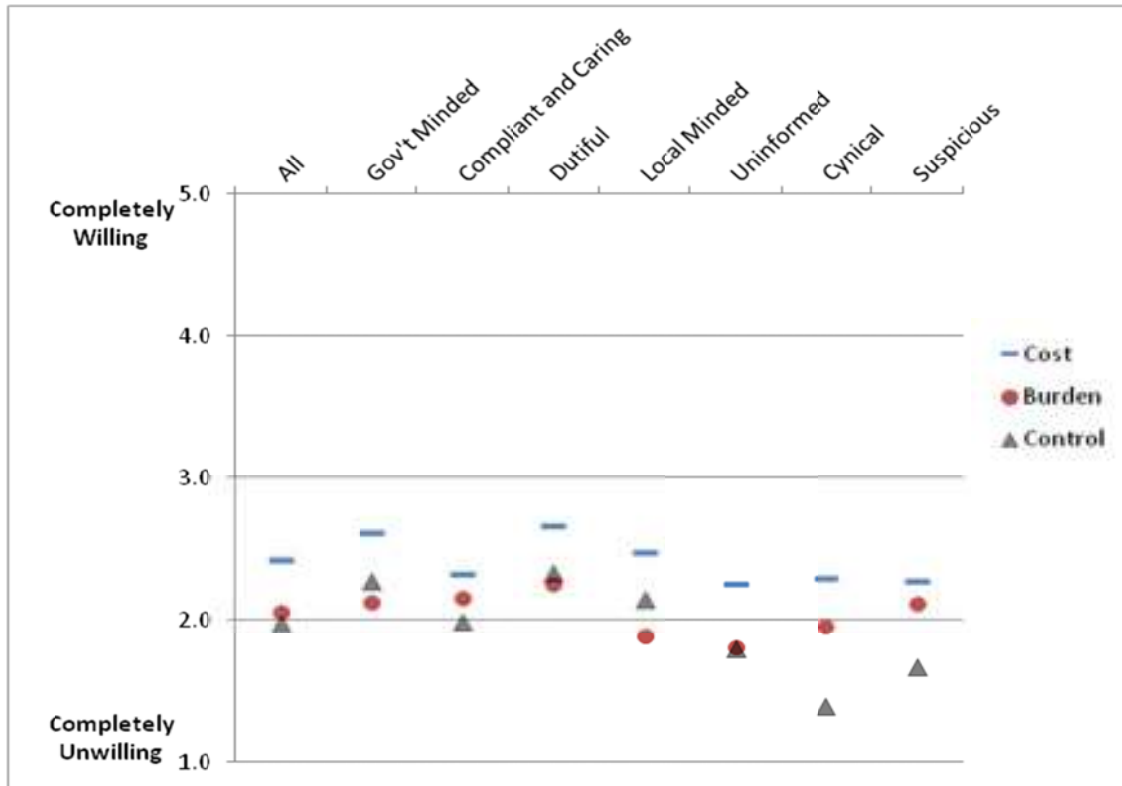
Because the wording was not manipulated, any differences between frames are assumed to be a carry-over from the earlier context effects of wording experiments. As seen in Table 3, willingness to provide SSNs is very low.

Overall only about two in ten (20.5 percent) indicated willingness to allow the Census Bureau access to SSNs for purpose of extracting demographic information from other agencies. While differences were not striking, respondents in the COST panel were significantly more willing than those in the BURDEN or CONTROL to consent to SSN use (24.7 percent versus 19.3 and 17.4, respectively). However, we found absolutely no difference by panel among mindsets (see Table 3 and Figure 3). This was not altogether unexpected given the wording was identical across frames.

Table 3. How willing to allow the Census Bureau to use SSN to obtain government records?
(% top 2 box on 5 point rating scale)

Frame		Total	Gov't Minded	Compliant & Caring	Dutiful	Local Minded	Uninformed	Cynical	Suspicious
Total	n	4043		672	517	497	736	351	538
		20.5 (±1.9)	(±4.7)	(±4.8)	(±5.8)	(±5.7)	(±4.8)	(±5.5)	(±5.3)
Cost	n	1375		224	184	168	246	128	181
		24.7 (±3.6)	(±8.8)	(±8.6)	(±10.4)	(±10.1)	(±8.4)	(±10.7)	(±11.2)
Burden	n	1345		241	182	155	239	105	186
		19.3 (±3.4)	(±8.1)	(±8.3)	(±9.7)	(±9.2)	(±8.4)	(±10.9)	(±8.6)
Control	n	1323		207	151	174	251	118	171
		17.4 (±3.1)	(±7.5)	(±7.7)	(±9.9)	(±9.8)	(±8.3)	(±5.2)	(±7.1)

Figure 3: How willing to allow the Census Bureau to use SSN to obtain government records?
(Mean Ratings by Frame and Mindset)



Lastly, we present findings from a battery of items that followed the SSN consent question. As research and development of administrative record use progresses, it is becoming clear that a multitude of sources will be required to fill the gaps of direct reports, not a single source. Some of these will likely be government databases but others may originate from private-sector sources such as credit companies. Consequently, it is important to understand if there are different levels of sensitivity according to source. To address this, respondents were queried if they approved the Census Bureau getting demographic information from a variety of sources.

SOURCE CONTROL: In order to make it easier to do the Census, would you approve or disapprove the Census Bureau getting sex, age, date of birth and race information for your household from: (ROTATE ITEMS):

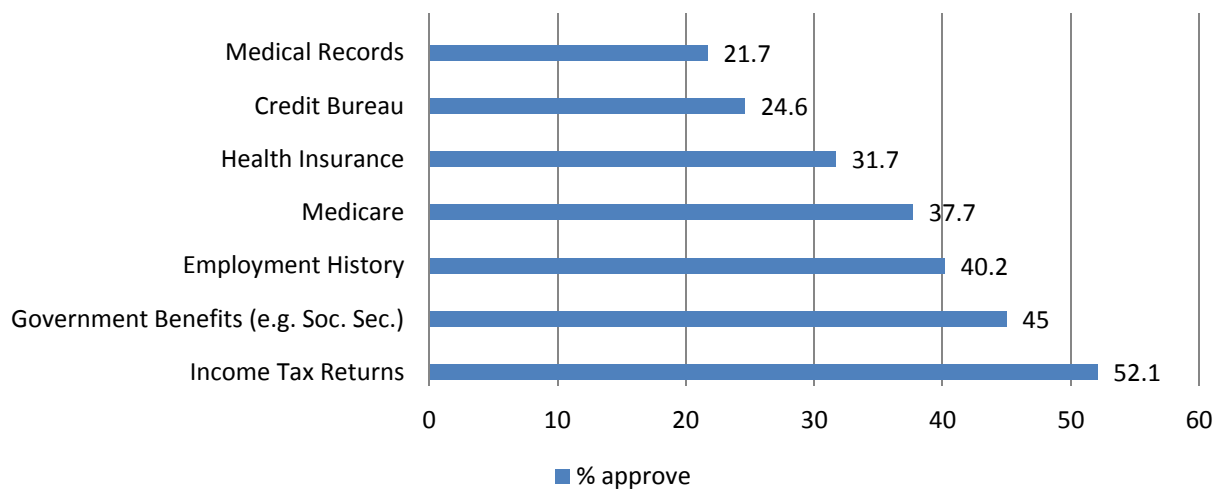
- Your most recent tax returns*
- A credit bureau*
- Your employment history*
- Medical records from your doctor*
- Information about your health insurance coverage*
- Information on your government benefits such as unemployment or Social Security*
- Your Medicare records.*

SOURCE COST: In order save money, would you approve or disapprove the Census Bureau getting sex, age, date of birth and race information for your household from: etc.,

SOURCE BURDEN: In order to make it easier to do the Census, would you approve or disapprove the Census Bureau getting sex, age, date of birth and race information for your household from: etc.

Unfortunately, the question stem preceding the list was identical for both the CONTROL and BURDEN frames making a comparison amongst all three frames impossible. Consequently, we present data from all three panels combined below in Figure 4.

Figure 4: Approval of Census Bureau using different administrative record sources to obtain age, sex, DOB and race



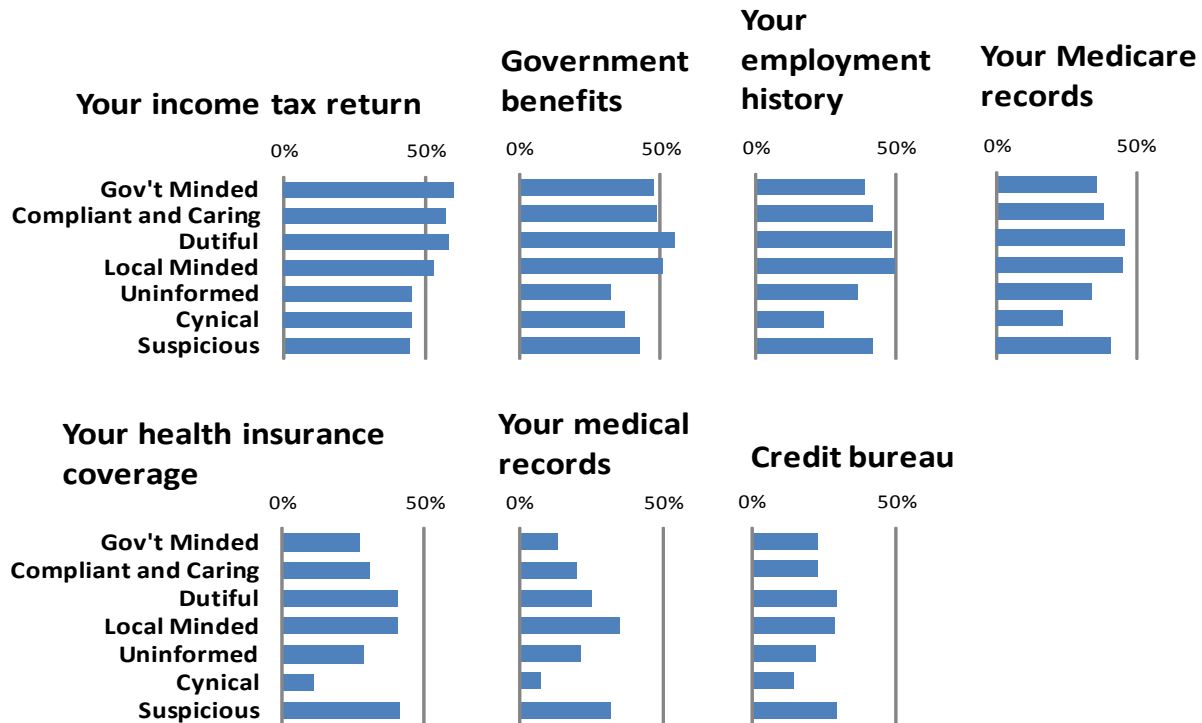
About half indicated they would approve the Census Bureau gathering sex, age, DOB, and race information from their most recent tax return (52.1 percent). Of the seven administrative sources offered, tax returns received the highest approval followed by government benefits (45 percent), employment history (40.2 percent), and Medicare records (37.7 percent). Respondents were less approving of the Census Bureau obtaining information from health insurance (31.7 percent), followed by credit bureaus (24.6 percent), and medical records (21.7 percent). While asked in a slightly different fashion, findings reported from a similar question in a 2010 study came to one similar conclusion, that is, public consent appears to be lowest for access to credit histories and medical records (Singer, Bates, and Van Hoewyk, 2011). Figure 5 further breaks out the approval rating by the mindsets.

A few high level take-aways are offered. First, none of the mindsets appear widely in favor of any one source. The Government-Minded, Compliant and Caring, Dutiful, and Local-Minded all have small majorities⁵ that approve

⁵ We acknowledge that using point estimates to discuss results in terms of a “majority” or “minority” distribution can be misleading given the margins of error for some of the mindsets.

using tax return data and come close to a majority (or just achieve it) in the case of government benefit data such as Social Security. However, majority approval stops there for these mindsets with all other sources falling short. For the other mindsets (Uninformed, Cynical, and Suspicious), no single source got a majority approval rating with the Cynical group particularly wary of everything except tax returns.

Figure 5: Approval of the Census Bureau Using Different Administrative Record Sources to Obtain Age, Sex, DOB and Race by Mindset



Conclusions and Future Research

Results from the CBAMS II provide another data point for understanding public willingness to move away from direct survey reports towards the expanded use of pre-existing data sources, namely, administrative records. In the survey, we measured approval of using administrative records in place of self-completed census forms for households who fail to return a form. We did not request actual consent to access administrative records; therefore, our data reflect hypothetical behavior and not actual behavior. This is an important caveat to our study as attitudes and behaviors often do not mirror one another.

We found that less than a majority were positive toward the Census Bureau getting information from other government records (43.2 percent). Less than majority would also choose records to replace a personal visit by a Census Bureau interviewer (41.5 percent). We found that less than one-quarter support the idea of using SSNs to obtain sex, age, date of birth, and race information from other agency records (20.5 percent). We also found that, with the exception of tax returns, approval to use different sources of administrative records always fell short of a majority.

In addition to gauging overall approval to using administrative records, we sought to understand if opinions varied by the context of the request. This is a critical nuance as context effects can play a pivotal role when designing messages as part of a larger communication campaign to educate the public. For the most part, previous studies have failed to uncover strong and consistent framing effects around consent to use or approval of administrative records. For this reason it is noteworthy that our data *does* suggest a frame effect. We found that opinions were consistently and significantly more positive when presented within a cost-savings frame. In fewer cases, we also

detected significantly higher approval ratings when asking within the context of reducing respondent burden (albeit far fewer compared to cost).

We additionally uncovered some interactions between the frames and the CBAMS II mindsets. For example when asking respondents to choose between records or a personal visit, we found that communicating a cost savings was significantly effective among the Government-Minded, Compliant and Caring, Local-Minded, Uninformed, and Cynical. In addition to cost savings, the argument for reducing burden was also effective among the Dutiful and Cynical. On the other hand, neither of the experimental frames was significant in moving the Suspicious more towards choosing records over a personal visit. The latter group is problematic because they see the census as a burden, think it takes too long to complete, and believe the government already has their information. The relatively small size of this group and large margins of error likely contributed to non-findings as the absolute difference between the burden frame and control was actually sizable for this group (around 11 percent).

One reason the cost frame may have “outperformed” the burden frame is the simple matter of how the two were presented. The cost wording mentioned that the 2010 Census cost \$10 billion dollars while the burden frame referred to the census rather vaguely as being “too much trouble”. Furthermore, the final phrase in the burden frame was “...*how do you feel about the Census making things easier by getting your information from other government records?*” “The phrase “making things easier” may not have been translated to mean “saving you time” (though that was the intent). One could argue that the cost frame is a more powerful and influential cue, and this could be the reason why the CBAMS II found a cost framing effect where previous studies failed. For example, cost frame experiments in Pascale (2011) and Singer, Bates, and Van Hoewyk (2011) did not mention dollar figures but merely refer to “reduced costs”. Perhaps the lesson learned in this case is that for a communication message to be effective, it must boast a very large cost-saving efficiency. It’s an empirical question that deserves further testing. Another open question is the extent to which a more explicit message about saving the respondent time would be gauged as favorable. Finally, future research should focus on changes in public opinion to the cost message over the decade. Given the current economic climate, approval of administrative records when framed as cost savings may particularly resonate.

The results of CBAMS II will not be used immediately to create targeted advertising as the 2010 Census is now complete, and the Census Bureau does not currently utilize a paid advertising campaign for its other surveys. However, the following illustrate how the Communications Directorate could use these results in future ad campaigns. For example, Hispanics answered more favorably to the use of other government records when framed as a burden reduction. Therefore, we would likely target this audience with messages that speak to a time savings rather than a financial savings. A second example might apply to a potentially negative finding. Given the very low percentage of respondents responding positively to the use of SSN, it would be in our best interest to develop across-the-board messages emphasizing that the Census Bureau will *not* need to collect SSN in order to utilize records.

Finally, while we learned much from the framing experiment, there are still many unanswered questions. For example, what is behind the relatively low public perception of Census using administrative records? Perhaps it stems from fear that the records will yield less accurate statistics compared to self reports? Or perhaps the underlying concern is loss of control over personal data or fear that using administrative records will evolve into some type of population registry or the popular notion that the government possesses a single centralized database? To help answer these questions, we suggest several things.

First, as suggested by Gates (2011), the topic of administrative record use and linkage needs to enter the public debate. The Census Bureau Communications Directorate should spearhead this effort with press releases, blogs, and other media channels to “get people talking”. If done properly, we can raise awareness around the issue, educate the public on the pros and cons, and ultimately grow informed public opinions. It should also help surface the most significant issues that can then be addressed by the Census Bureau well before the 2020 Census.

Second, we must constantly monitor public opinion pertaining to administrative record use. Recently, the Directors of several statistical agencies (including the Census Bureau) agreed to sponsor a daily public opinion tracking survey. The larger goal is to measure trust in official statistics by building upon a theoretical framework put forth by Ivan Fellegi and colleagues (OECD, 2010). This framework argues that trust in official statistics is predicated upon three sets of underlying factors: structural factors, statistical factors, and reputational factors. In addition to measuring the ‘trust’ construct, a subset of tracking questions pertain specifically to administrative records. These

items strive to understand better how the public thinks about administrative records. For example, do they believe statistical agencies give personal information to the IRS and marketing firms? For purposes of creating statistics, do they prefer that statistical agencies get information like earnings histories and income directly from them or from the source agencies? Do these opinions vary whether the data source is the Social Security Administration versus Internal Revenue Service versus a credit card company? Having daily data points will allow us to study correlates of the attitudes around administrative records. Do they fluctuate by current events such as a well-publicized data breach? Are they correlated with certain political news? How long does it take to return to 'normal' following such events? These are further questions we must address before we can successfully harness the potential of administrative records and fully integrate their use into the 2020 Census.

Acknowledgements

The authors thank Mary Mulry for her assistance and guidance with the statistical testing, as well as Randy ZuWallack, Frederica Conrey, and Robynne Locke, all of ICF Macro, the CBAMS II contractor.

References

- American Association for Public Opinion Research (2010). Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. Lenexa, Kansas: AAPOR.
- Asher, J. (2010). A Cross-National Comparison of Population and Housing Census Methods. U.S. Census Bureau unpublished memorandum. December 22, 2010.
- Bartinton S.E, Peckham C., Brown D., Joshi H and Dezateux C (2009). Feasibility of collecting oral fluid samples in the home setting to determine seroprevalence of infections in a large-scale cohort of preschool-aged children. *Epidemiology and Infection* (137): 211-218.
- Bates, N. and Mulry, M. (2011). "Using a Geographic Segmentation to Understand, Predict, and Plan for Census and Survey Mail Nonresponse." *Journal of Official Statistics*, Vol. 27, No. 4, pp. 601-619.
- Bates, N., Conrey, F., Zuwallack, R., Billia, D., Harris, V., Jacobsen, L., and White, T. (2009). "Messaging to America: Census Barriers, Attitudes and Motivators Survey Results." 2010 Census Integrated Communication Research Memorandum Series: No. 10. U.S. Census Bureau. May 12, 2009. (<http://2010.census.gov/partners/pdf/C2POMemoNo10.pdf>).
- Burton, J, Sala, E. and Knies, G. (2011). "Correlates of obtaining informed consent to data linkage: Respondent, interview and interviewer characteristics". A paper presented at the Fourth Conference of the European Survey Research Association (ESRA), Lausanne, Switzerland, July 18-22, 2011.
- Federal Committee on Statistical Methodology (2011). "Informed Consent: Requirements and Practices for Statistical Uses of Administrative Data". Report of the FCSM Informed Consent Working Group, Washington, D.C.
- Gates, G. W. (2011) "How Uncertainty about Privacy and Confidentiality is Hampering Efforts to More Effectively Use Administrative Records in Producing U.S. National Statistics," *Journal of Privacy and Confidentiality*: Vol. 3: Iss. 2, Article 2. (<http://repository.cmu.edu/jpc/vol3/iss2/2>).
- Groves, R.M. (2011). The Future of Producing Social and Economic Statistical Information, Part 1. In *The Director's Blog*, U.S. Census Bureau website, September 8, 2011.
- Hill, J.M., Rothhaas, C.A., Lestina, F.A., Dusch, G.S., and Landreth, A. (2011). 2010 Census Confidentiality Notification Experiment Report. A report in the 2010 Census Program for Evaluations and Experiments.
- Jansson, I, Hedlin, D. and Holmberg, A. 2011. "Combining Registers into a Fully Register-Based Census - Some Methodological Issues" Paper presented at the Fourth Conference of the European Survey Research Association, Lausanne, Switzerland.

Ketende, S., Calderwood, L., and McDonald, J.W. (2011). "Longitudinal consent patterns and predictors of consent to linkage of survey data in the Millennium Cohort Study." A paper presented at the Fourth Conference of the European Survey Research Association (ESRA), Lausanne, Switzerland, July 18-22, 2011.

Korbmacher, J. and Schroeder, M. (2011). "Nonresponse when linking survey data with administrative data". A paper presented at the Fourth Conference of the European Survey Research Association (ESRA), Lausanne, Switzerland, July 18-22, 2011.

Madans, J. (2011). "Use of Administrative Records and the Privacy-Confidentiality Trade-off". *Journal of Privacy and Confidentiality*, No. 2, 53-55.

Macro International, Inc. (2011). "Census Barriers, Attitudes, and Motivators Survey (CBAMS) II: Final Report", October 31, 2011. (http://2010.census.gov/partners/pdf/CBAMS_II_Final_Report.pdf).

National Research Council (1993). "Private Lives and Public Policies: Confidentiality and Accessibility of Government Statistics" George T. Duncan, Thomas B. Jabine, and Virginia A. De Wolf, eds. Panel on Confidentiality and Data Access, Washington, D.C: National Academies Press.

Organisation for Economic Co-operation and Development (2010). Report of the Electronic Working Group of Measuring Trust in Official Statistics. United Nations, New York, February 25, 2010.

Pascale, J. (2011). "Requesting Consent to Link Survey Data to Administrative Records". A paper presented at the Fourth Conference of the European Survey Research Association (ESRA), Lausanne, Switzerland, July 18-22, 2011.

Sakshaug, J. and Kreuter, F. "Assessing the Magnitude of Administrative Non-Consent Biases in the German PASS Study". A paper presented at the Fourth Conference of the European Survey Research Association (ESRA), Lausanne, Switzerland, July 18-22, 2011.

Singer, E., Bates, N. and Van Hoewyk, J. (2011). "Concerns about Privacy, Trust in Government, and Willingness to Use Administrative Records to Improve the Decennial Census". In the 2011 *Survey Research Methods Section proceedings of the American Statistical Association*.

Tate R., Calderwood L. and Dezateux C. (2006). Mother's consent to linkage of survey data with her child's birth records in a multi-ethnic national cohort study. *International Journal of Epidemiology* 35 (2): 294-298.

Valente, P. (2010). "Census taking in Europe: how are populations counted in 2010?" *Population and Societies*, No. 467, May.